The

Entomologist's Record

and Journal of Variation

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Volume 125

2013

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The Entomologist's Record

and Journal of Variation

Edited by C. W. Plant

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Contents and Special Index

Volume 125
2013
ISSN 0013-8916

www.entrecord.com

A publication of The Amateur Entomologists' Society

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

World List abbreviation: *Entomologist's Rec. J. Var.*

http://www.entrecord.com

Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

Annual subscription for individual subscribers for 2013 is £25.
For institutional and overseas rates please visit the website at www.entrecord.com

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Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

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and Journal of Variation

lume 125 • Part 1 January/February 2013

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A publication of The Amateur Entomologists' Society

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

World List abbreviation: *Entomologist's Rec. J. Var.*

http://www.entrecord.com

Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

Annual subscription for individual subscribers for 2013 is £25.
For institutional and overseas rates please visit the website at www.entrecord.com

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Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

SCYTHRIS FALLACELLA (SCHLÄGER, 1847) (LEP.: SCYTHRIDIDAE): AN ACCOUNT OF THE EARLY STAGES

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Abstract

An account is given of the larva of *Scythris fallacella* (Schläger, 1847), which hitherto appears to be undescribed in the British literature and has only recently been described in mainland European literature, together with the pupa.

Key words: Lepidoptera, Scythrididae, *Scythris fallacella*, larval description, pupa.

Introduction

Scythris fallacella (Schläger, 1847) was added to the British list in 1935 by Pierce & Metcalfe (1935) as a result of the examination of a number of specimens, most taken at least 30 years earlier by various Lepidopterists. Until then it was confused with *S. fuscoaenea* (Haworth, 1828). In the British Isles it is known only from limestone areas in Lancashire, Yorkshire and Cumbria in north-west England. Although Common Rock-rose *Helianthemum nummularium* has been known to be the larval foodplant for many years, for example, Ford (1941), the larva has apparently never been described in the British literature. It was not described in mainland European literature until 2005, in a publication by Baran on the Scythrididae of Poland. This was in English but published in Poland and may not be easily accessible for most British Lepidopterists. For that reason we set out our account of finding larvae and a pupa amongst Common Rock-rose at Warton Crag, Lancashire (VC60) in 2012.

Account of the larva and pupa of *Scythris fallacella*

Warton Crag is a south facing, terraced, limestone hill comprising four Nature Reserves, one of which is managed by the Royal Society for the Protection of Birds. On 17 May 2012 we visited the RSPB Reserve where Common Rock-rose is locally very common. We found several larvae and one pupa, all amongst the larval foodplant growing over the limestone rocks and not amongst plants growing in grassland. We only found these where the plants were growing amongst mosses, mainly *Hypnum lacunosum*. We were not able to identify the other moss species. Ford (1941) states that the larva spins a silken tube extending from the roots to the lower leaves. We found larvae by carefully looking for evidence of silken spinnings or tubes amongst the leaves and stems; larvae were never seen outside these. We did not notice whether the tubes extended to the roots. The presence of larvae could occasionally be detected by some of the plant leaves being white as a result of grazing by the larvae. A pupa was found within a cocoon attached to leaves of the

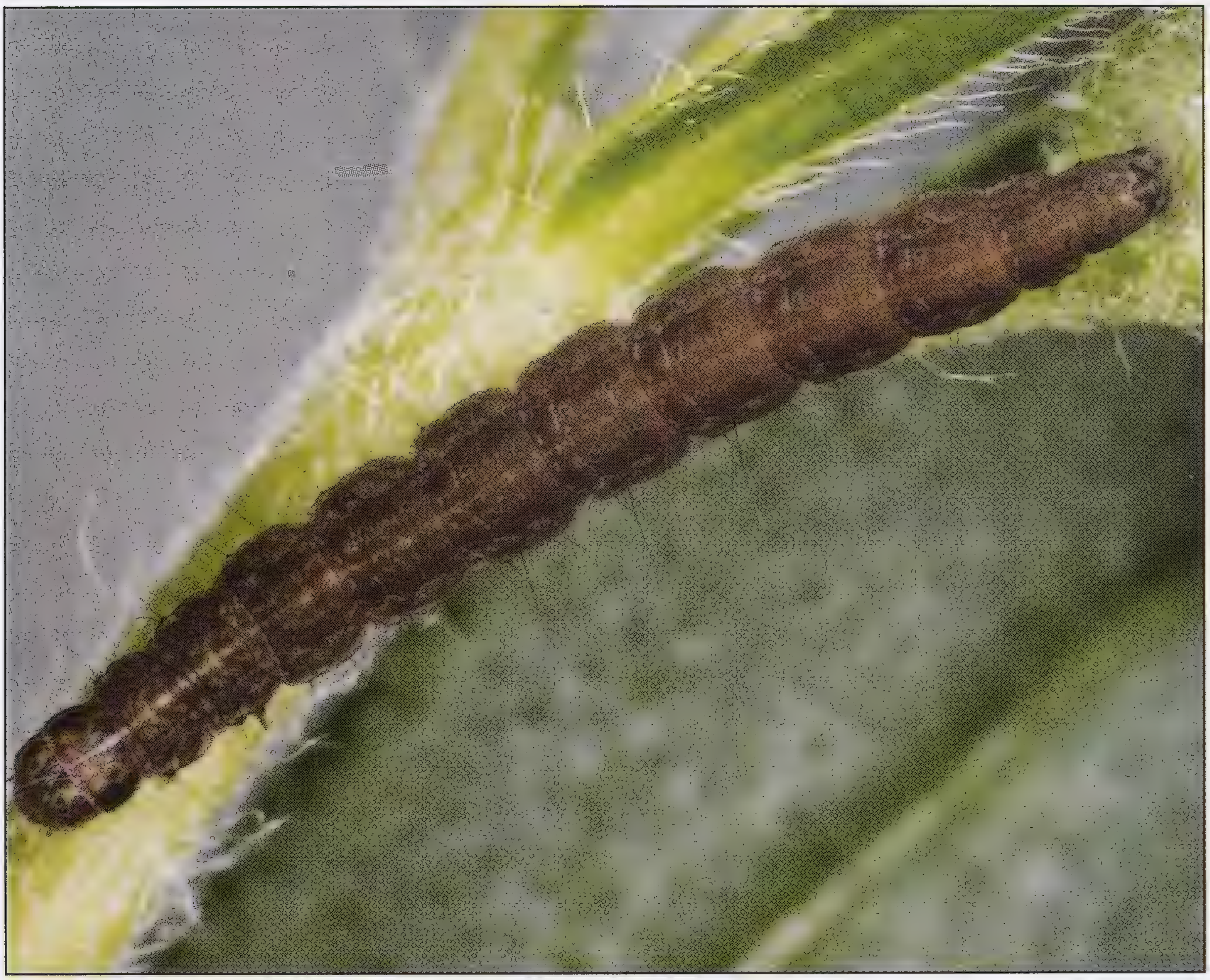

Plate 1. Larva of *Scythris fallacella*. Warton Crag, Lancashire, 2012.
Photograph © R. J. Heckford.

foodplant, but in captivity the larvae spun cocoons amongst moss, usually incorporating parts of it.

Confirmation that the larvae were those of *S. fallacella* was provided when moths emerged between 6 June and 3 July 2012.

Larva. *Final instar*. (Plate 1). Head: labrum and clypeus black, epicranium yellowish brown with numerous black marks; prothoracic plate reddish yellow becoming yellowish posteriorly and black laterally, with a whitish medial line both widening and edged black posteriorly; body dark purplish brown, dorsal, subdorsal, lateral and supraspiracular lines indistinct, interrupted, narrow and pale yellowish brown with a wider slightly brownish white subspiracular line, a few very small white spots in incomplete transverse lines anteriorly on abdominal segments and in incomplete longitudinal lines dorsolaterally on those segments; pinacula small and black, setae black; peritremes of spiracles dark brown; anal plate black with a pale yellowish brown medial line; thoracic legs black, femur ringed pale grey distally; ventral and anal prolegs slightly translucent, very pale brown, base dark brown, crochets reddish brown.

Pupa. Reddish brown within a silken cocoon, not extruded from this on emergence of the moth.

Baran (2005) provides a much more detailed description of the final instar, an account of the chaetotaxy and monochrome figures of the final instar (dorsal and lateral views). In general our observations above agree with his account except that according to him the body is coffee-coloured with a more or less distinct violet to pink tint and most of the lines as whitish grey; he does not mention the white spots on the abdominal segments or the ventral and anal prolegs. He does not describe the pupa.

Discussion

Because we found only a few larvae, it is difficult to know whether our experience is typical but, if so, it appears that the larva needs the foodplant to be growing amongst moss on rocks. Perhaps such a situation provides a warmer microclimate. *Scythris fallacella* has recently been accorded pRDB1 status by Davis (2012: 24), denoting that it occurs in five or less 10km squares in Great Britain, but it can be locally common. We hope that our observations might provide a better understanding of the larval requirements and possible ecology and so might assist any conservation measures.

Acknowledgements

We are very grateful to Mr R. Miller (RSPB) and Mr G. Swainson (Natural England, Kendal) for permission to record at Warton Crag, Mr S. M. Palmer (Fulwood) for helpful information and Dr B. Å. Bengtsson (Färjestaden) for providing a copy of the relevant pages from Baran's publication.

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OBITUARY

PAUL ANTHONY SOKOLOFF

1948 - 2012

"Contentment is a loving family, fine friends ... and good mothing"

Most lepidopterists in the south-east of England are likely to have come across Paul at some stage in their entomological career; those resident further north are more likely to merely "know the name", yet his contribution to entomology covered a far wider area than his home county of Kent. His contribution to the science was frequently "behind the scenes" and so rarely noticed outside his close circle of friends, but any perception that his contribution was relatively minor is far from accurate.

A resident of north-east Kent (London) and a significant member of the Orpington Field Club, Paul was one of a lively group of lepidopterists active throughout Kent. In the early 1970s, he extended his interests to include the micros, very much influenced by the fact that Michael Chalmers-Hunt lived not far away and had a reference collection with which his own material could be compared. He was a regular on field trips and had the firm opinion that entomology can not be learned from books. He had a keen eye and submitted many Notes and Observations to this journal from 1971 onwards. When, in 1985, Chalmers-Hunt determined to relinquish his post as editor of this journal, Paul was his first choice as a replacement; Paul willingly accepted the role from mid-1985 to 1995 when, as a consequence of other commitments, he passed the reins over to Colin Plant.

Paul was an active member of the British Entomological & Natural History Society (BENHS) and was elected their President for 1984. His Presidential Address, delivered at the end of his term in office, was an illustrated paper on the gelechiid genera *Teleiodes* and *Teleiopsis* and remained the standard work of reference until volume 4 (part 2) of *Moths and Butterflies of Great Britain and Ireland* updated the entire family. In fact, he had himself been identified as a potential author for this volume of "*MBGBI*" for which he was already an Associate Editor, but pressures of work prevented him from continuing with this project.

Paul was especially active in the Amateur Entomologists' Society (AES), serving on its Council, where he was held in very high regard and making a number of other contributions. He updated the pamphlet *Practical hints for collecting and studying microlepidoptera* for the AES in 1980 and in 1984 also produced the 56-page work *Breeding the British and European Hawk-moths* (AES Handbook no. 19). In February 2011 he took on a role as co-editor of the AES *Bulletin*, though this was a regrettably short experience and his final contribution turned out to be in June 2012.

Throughout this period he was lecturing at Bromley Technical College, having obtained all his qualifications, including an M.Phil, as a mature student on day-release. In due course, he looked for a more challenging post and became involved in an Examination Board. This restricted his time for entomology until he retired in 2006.

In retirement he resumed his entomological activity, in particular surveying High Elms Country Park near to his home. He also became an associate editor of *Nota Lepidopterologica*, a peer-reviewed journal produced by Societas Europaea Lepidopterologica, the leading Lepidoptera society for Europe and was engaged in other editorial work, including David Dunbar's book, *British Butterflies: A History in Books*. The published acknowledgement in that work reads "*In particular I must*

CREAK!!
CREAK!!
WOBBLE!

praise the work of Paul Sokoloff who transformed my raw draft into an orderly and presentable script. He researched many books, including those in his own unique collection, and contributed much critical information on books of the 19th century. I cannot thank him enough for his patient advice and methodical hard work over many months". This was fairly typical of the man who had an uncanny knack of offering a sensible and achievable answer to many a difficult situation – usually accompanied by one or more examples of his dry wit.

Apart from all this, Paul was also on the editorial panels of *Atropos* and the *British Journal of Entomology & Natural History*. He was also a Trustee of the Herring Memorial Fund for the BENHS. He had a good entomological library, doing his own binding and a significant number of local entomologists benefitted considerably from access to this. His genuine interest in entomological publishing was also manifested in his generous financial contribution to the publication of the Index of the first 25 years of *Microlepidoptera Reviews* published in this journal.

The onset of cancer of the lungs and bones in June 2012 was a shock to all who were privy to that information, especially as he was a non-smoker and relatively fit. The deterioration was rapid and his exit was mercifully short; he passed away quietly, in his sleep, on 26 November 2012. Paul was a pleasant companion, self-assured and able; his contribution to lepidopterology will be missed. Our sympathy is extended to his widow Linda and children Julian and Amanda.

The cartoon depicting Paul was drawn by a family acquaintance for his 50th birthday. Such was his sense of humour that he would certainly have approved of us including it here and we are grateful to the family for permission to do so.

David J. L. Agassiz & Colin W. Plant

Changes to the County Moth Recorders List

The following formal changes to the county-based recording of Lepidoptera in the British Isles affect the list published in the January 2012 issue of this journal (*Ent. Rec.* **124**: 1-10).

VC9 Dorset

Mike Jeffes has taken over from Phil Sterling as micro-moth Recorder (arrangements for recording macro-moths are unchanged and the macro-moth Recorder, Les Hill, continues to act as collator for both macro and micro data).

Mike Jeffes, 33 Moors Close, Hurn, Christchurch, Dorset BH23 6AL.
(E-mail: mikejeffes@hotmail.co.uk).

VC33 East Gloucestershire

Robert Homan has taken over from Roger Gaunt as Recorder for VC33 (macros and micros).

Robert Homan, The Apiary, Swindon Lane, Cheltenham, Gloucestershire GL50 4PD.
(Email: theapiary@hotmail.com).

VC34 West Gloucestershire (west of the Severn)

Michael Bradley has taken over from Roger Gaunt as Recorder for that part of VC34 lying west of the River Severn (macros and micros).

Michael Bradley, Walden Villa, Pool Hill, Newent, Gloucestershire GL18 1LL.
(Email: michaelw1184w@hotmail.co.uk).

VC34 West Gloucestershire
All species – east of the Severn

Neale Jordan-Mellersh has taken over from Roger Gaunt as Recorder for that part of VC34 lying east of the River Severn (macros and micros).

Neale Jordan-Mellersh, 25 Chester Park Road, Fishponds, Bristol BS16 3RQ.
(E-mail: sneale48@hotmail.co.uk).

VC 58 Cheshire

Paul Hill has now filled the formerly vacant position as macro-moth Recorder for VC58 Cheshire:

Paul Hill, 1 Clive Cottage, London Road, Allostock, Knutsford, Cheshire WA16 9LT.
(E-mail: PaulHill@biota.co.uk).

VC62 North-east Yorkshire

Robert Woods has taken over from Dave Chesmore as Recorder for VC62 (macros and micros). The existing arrangement whereby the VC Recorders pass records to Charles Fletcher (macros) or Harry Beaumont (micros) for the whole of Yorkshire is unchanged.

Robert Woods, 19 Thirlby Way, Guisborough TS14 6GN.
(E-mail: rwoods1163@aol.com).

VCs 67 & 68 South Northumberland & North Northumberland

The postal address of the Recorder was accidentally omitted from the 2012 list.

Tom Tams, 191 Links Road, Tynemouth, Northumberland NE30 3TQ.
(E-mail: tom-tams@blueyonder.co.uk).

VC82 East Lothian

Mark Cubitt, the existing Recorder for VC84, has taken over from Mike Thornton as Recorder for VC82 (macros and micros).

Mark Cubitt, 12 Burgh Mills Lane, Linlithgow EH49 7TA.
(E-mail: vc82moths@eastscotland-butterflies.org.uk).

VC96 East Inverness-shire

Mike Taylor, the existing Recorder for VC95 (Moray), has taken over from Peter Moore as Recorder for VC96 (macros and micros).

Mike Taylor, Allasdale, Kinchurdy Road, Boat of Garten, Inverness-shire PH24 3BP.
(E-mail: mst.taylor@btinternet.com).

NEWS FROM THE RECORDING SCHEMES

Gelechiid Recording Scheme

With 2012 now a damp but not too distant memory, it is worthwhile looking back over what has been achieved in the first year of the new Gelechiid Recording Scheme. Targeted fieldwork was a bit of a wash out, but it was always the main objective over the first two years to concentrate on data acquisition. This was achieved by informing County Moth Recorders (CMRs) and moth recorders generally of the Scheme's existence, carrying out research involving Museum collections and trawling through available literature. The first twelve months have produced datasets from 59 of the 113 Vice Counties of England, Scotland and Wales (including the Channel Islands). A considerable bonus is that a good proportion of these sets included historic as well as more modern data. Additionally there has been a good response from both parts of Ireland with nearly 1000 records from north and south now on the database.

Additional sources of records followed up during 2012 included visits to Museums in Carlisle, Edinburgh, Liverpool, London, Manchester and Oxford. Assistance from the staff and volunteers at each of these establishments has been excellent and very much appreciated. Further visits are planned, including back to some of the above where limited time meant only portions of the records were extracted. If any Museum not mentioned above have their collections fully catalogued then do please get in touch – contact details at the end of this article.

There is still a need to increase awareness of the Scheme and a display was taken to the British Entomological and Natural History Society's Annual Exhibition last November. This went down well and created plenty of discussion and some additional data – with more promised. The display will be on show at the 2013 Moth Recorders Conference run by Butterfly Conservation, in Birmingham. In order to promote further submission of records and targeted recording, distribution maps for each species can be found on the Scheme website *www.gelechiid.co.uk*. The maps are updated once a year, the latest refresh having taken place in late December 2012. The maps now display over 71,000 records thanks to the brilliant response from County Moth Recorders, several Biological Record Centres and many individual recorders.

Several photographers have kindly allowed their work to be used on the above website but additional good quality photographs are always needed. The Scheme works closely with the Dissection Group and UK Moths websites who have kindly allowed us to link into their sites on each species page. The Scheme website however has the flexibility to show many more photos per species and it would be great to receive many more good quality photographs of adults (including any variations from the normal form), breeding habitat, larval feeding signs, larvae, pupae and set specimens.

Over the next twelve months the intention is to continue to expand the text content for each species taking into account information forthcoming from the records received. To assist with any planned species searches, links are being set up showing distribution maps for each primary larval food-plant, where known. The website is also being developed as a research resource and contains a list of references to published material (post *Moths and Butterflies of Great Britain and Ireland* Vol. 4 part 2) relating to the Gelechiidae in the British Isles. It is the intention to expand this to cover references to European Gelechiidae in the near future.

We are aware that some CMRs have taken up their posts relatively recently and may have a limited amount of knowledge about micromoths. This is an area where the Scheme can help. If data hasn't been submitted due to concerns about the accuracy of records then do please get in touch. All incoming records go through an assessment process and we are more than happy to help out with the checking and verification process. It may also be that data is not in an easily transferrable format. Legible photocopies of hand-written or printed data are accepted if no other options are available.

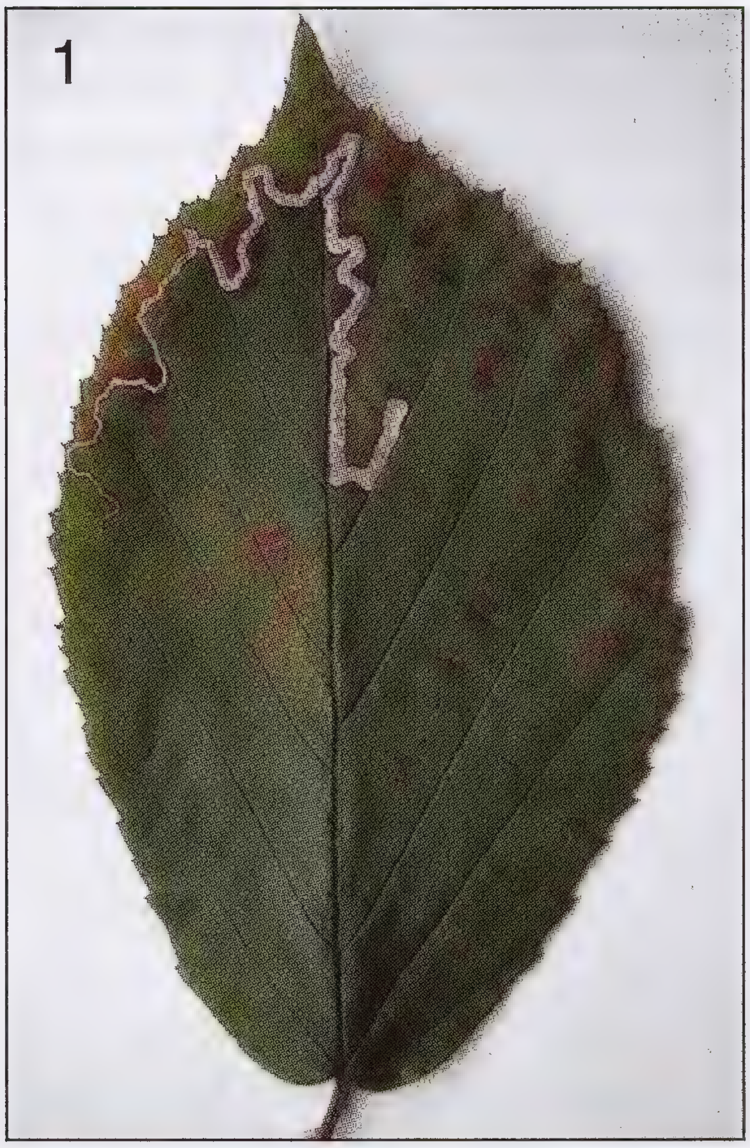
A request has been received to provide an additional feature on the website in the form of a list of species requiring dissection. This is being worked upon but do please get in touch if you would like to see any additional features (within reason!) and we'll see what can be done.

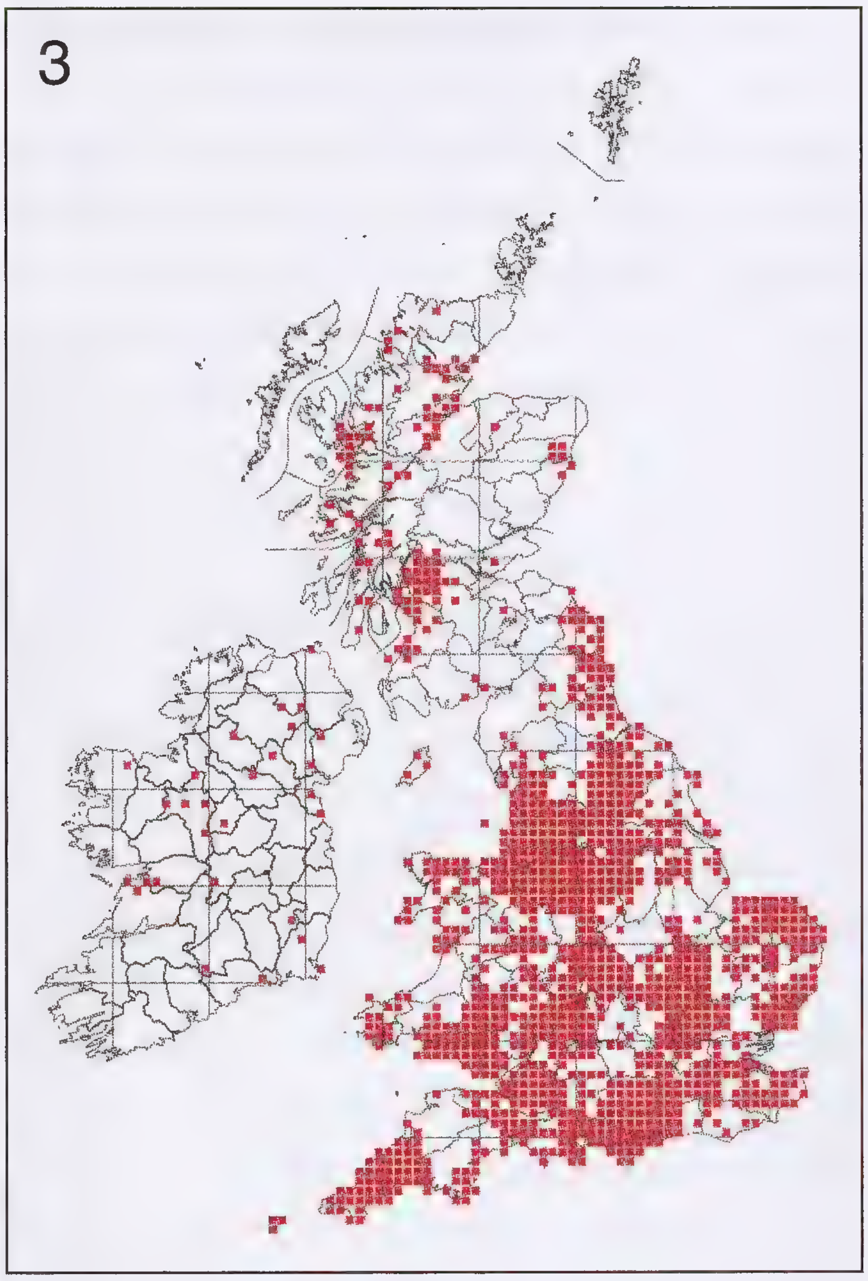
STEPHEN & CAROLYN PALMER
137 Lightfoot Lane, Fulwood, Preston, Lancashire PR4 0AH
(E-mail: s.palmer12@btopenworld.com)

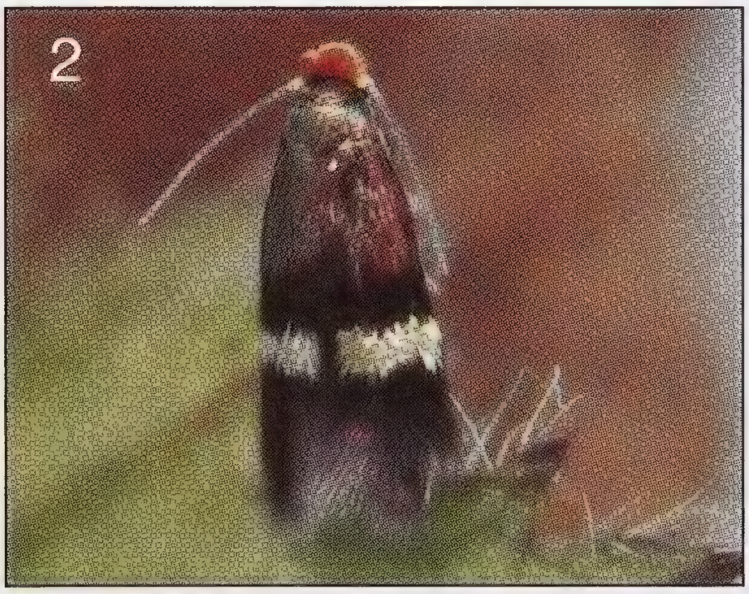
Leaf-Mining Lepidoptera Recording Scheme

Most readers of this journal will no doubt recognise the distinctive leaf-mine on bramble, shown on page 10, as that caused by the larva of *Stigmella aurella* (Fabr.). Perhaps fewer may recognize the adult moth?

Although it is, perhaps, one of our commonest species, significant gaps are evident in its known distribution, but this is unlikely to reflect reality. The National Leaf-mining Lepidoptera scheme hopes to fill these gaps as well as mapping the British Isles distribution of over 300 other leaf-mining moth species.







Stigmella aurella (Fabr.). 1. Larval mine on *Rubus fruticosus* leaf; 2. Adult moth; 3. Known British Isles distribution at December 2012.

I am very grateful to those individuals who send me their records each year; this enables me to map and regularly update the distributions on the leaf-mines site at *www.leafmines.co.uk*. There are now over 250,000 records in the leaf-mines database, but there are still gaps. Perhaps you can help? Ideally I would like records as a Mapmate sync file (set your filters to the National Leafmine scheme; my cuk is 1rx), but you can submit records in other formats, such as Microsoft Excel (download a template from *www.leafmines.co.uk/html/nlls.htm*; this section of the website also gives guidance on how to submit records to the scheme).

Please feel free to contact me if you have any queries about this or need help with identification – I look forward to hearing from you.

ROB EDMUNDS
Embankment House, Farthing Road, Downham Market, Norfolk PE38 0AF
(E-mail: rdedmunds@btinternet.com)

Lepidoptera Dissection Group website and forum (*www.dissectiongroup.co.uk*)

It is not always possible to identify a moth from its external features alone and dissection remains a powerful and reliable tool for helping to name the majority of these. To these problematic few can be added worn specimens which do not display enough characteristics to allow a positive identification to be made.

The Dissection Group website was set up initially to serve as a depository for photographs taken by its members of genitalia preparations of British and Continental moths. The purpose of the site rapidly morphed into one of more general appeal and usefulness and started including comparative guides designed to aid identification by highlighting the differences between closely allied species, those such as the *Scoparia* and *Eudonia* pyralids and the *Coleophora albidella* group, etc.

Other guides and features found on this site are those covering:

Photography – the aim of which is to obtain the highest quality images possible from the class of equipment likely to be owned by most people.

Dissection guide – a tutorial explaining the process and techniques of dissection.

Equipment and chemicals – microscopes, ancillary kit, chemicals and their uses.

Morphology – what the various genital structures are called.

Book and resource list – publications dealing with various families which include at least some sketches or photographs of preparations.

Glossary – of terms used, past and present. Most people will have struggled at some point with the meaning of an archaic or specialised term and the purpose of this feature is to highlight these.

Contributors – currently fifty-four people have contributed material to the site.

At the time of writing there are 2499 images of genitalia preparations (1503 of males and 996 of females) representing 1654 species, of which 845 are represented by both sexes. I am keen to increase these numbers as specimens become available, but would request that people contact me first before sending images.

The website attracts around 100 visits each day.

In close association with the website is the Dissection Group forum, (mothdissection@yahoogroups.com) where people can post photographs of unidentified material and get either a positive answer or at least advice on narrowing the search. We are fortunate in that among our members there are several leading experts willing to share their experience, particularly helpful to people starting their studies of Lepidoptera. There are always mysteries, particularly with specimens from Europe, and here the combined experience of the group can prove very useful.

The website is dedicated to F.N. Pierce who, in 1909, began to produce a series of publications dealing with genitalic drawings of most of the British Lepidoptera fauna. 103 years on, parts of this momentous endeavour are still in use by many people and demonstrates the lasting value of such material.

Brian Goodey
Colchester, Essex (Contact via e-mail: essexmoths@dsl.pipex.com)

Caloptilia hemidactylella (D.& S.) (Lep.: Gracillariidae) – recorded in West Suffolk

During a trip to Groton Wood in West Suffolk on 13 November 2012 for the specific purpose of seeing the Plumed Prominent *Ptilophora plumigera* (D. & S.), which is well-known from that site, an unfamiliar *Caloptilia* (Plate 1) came to a 22-watt actinic trap set about 50 metres distant from a 125 watt mv trap against the base of a mature Field Maple *Acer campestre*. The lights were switched on at 1700 hours GMT, but this moth did not arrive until 2100 hours when it was noted flitting around the actinic tube as I was packing up. On returning the borrowed generator to Colin Plant later that evening I showed him the moth which he recognized as *C. hemidactylella*. The identification was confirmed by examination of the genitalia slide that was very kindly prepared by Jon Clifton (Plate 2).

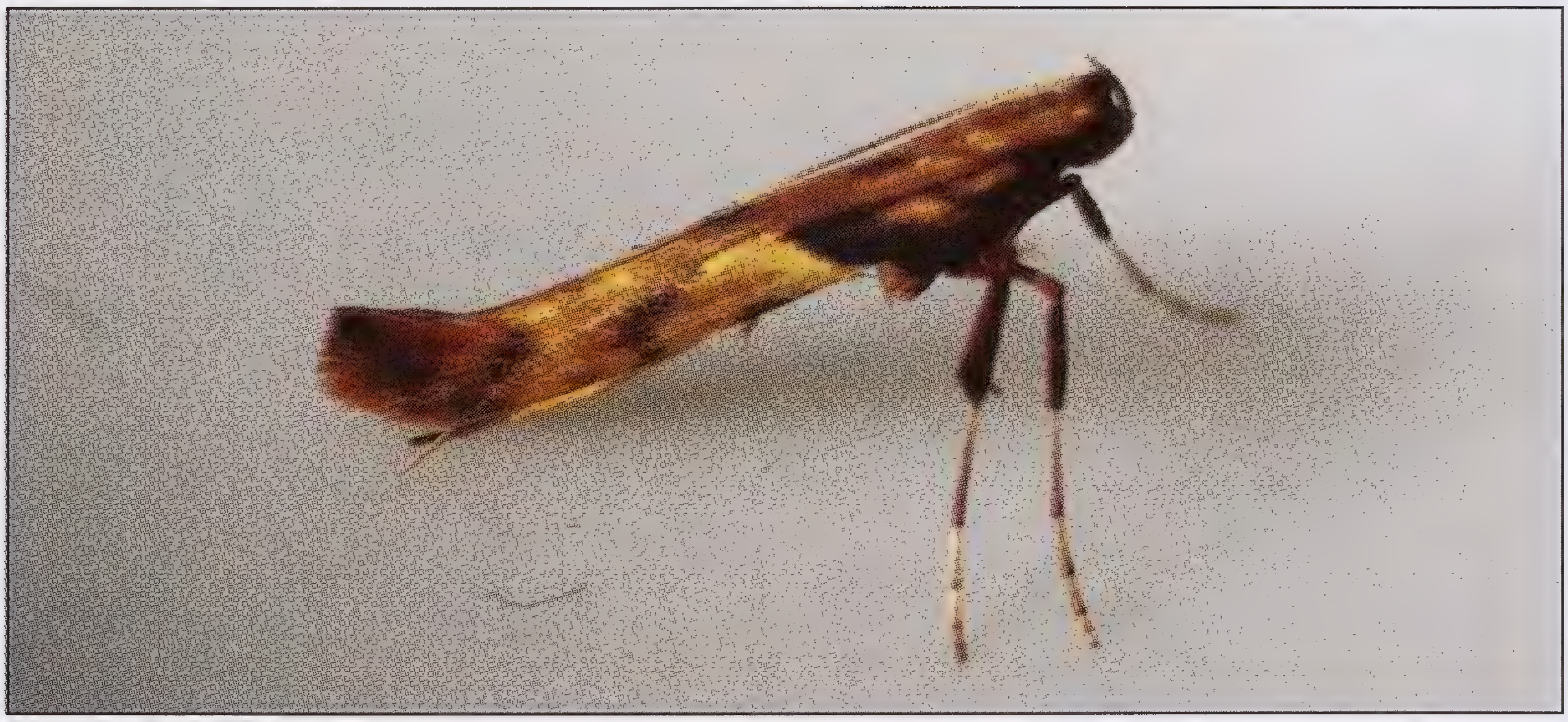


Plate 1. *Caloptilia hemidactylella*, Groton Wood, Suffolk, 2012.

Sexton (2012) added this species to the Northumberland fauna and in so doing presented a summary list of British Isles records for this provisionally "Endangered" species. It was suggested that since there was an apparent population explosion in the Netherlands two years earlier, the presence of this attractive micro moth in a county on the eastern seaboard of northern England was not necessarily unexpected; the presence of the moth in an eastern seaboard county of *southern* England is certainly no more unusual. Groton Wood has a significant number of mature and semi-mature Field maple trees that support the Plumed Prominent moth and these are surely likely to provide a basis for residency on the part of *hemidactylella*? The eggs are laid in June (Emmet, 1991) and the larva forms a cone on a leaf of Sycamore *Acer pseudoplatanus* or other *Acer* species such as Field Maple *Acer campestre* and is evident by about August. The winter is passed as an adult and the Suffolk example undoubtedly represents a hibernating population that may or may not be resident. It is interesting, however, that the *dated* records listed by Sexton (2012) all relate to the autumn period (Oxfordshire in October 1985, Gloucestershire in October 2009 and Northumberland in September 2012) to which may now be added Suffolk in

November 2012. This may suggest primary immigrants that may or may not survive the ensuing winter.

I am most grateful to Jon Clifton for dissecting the genitalia of the moth and for preparing and photographing the slide.

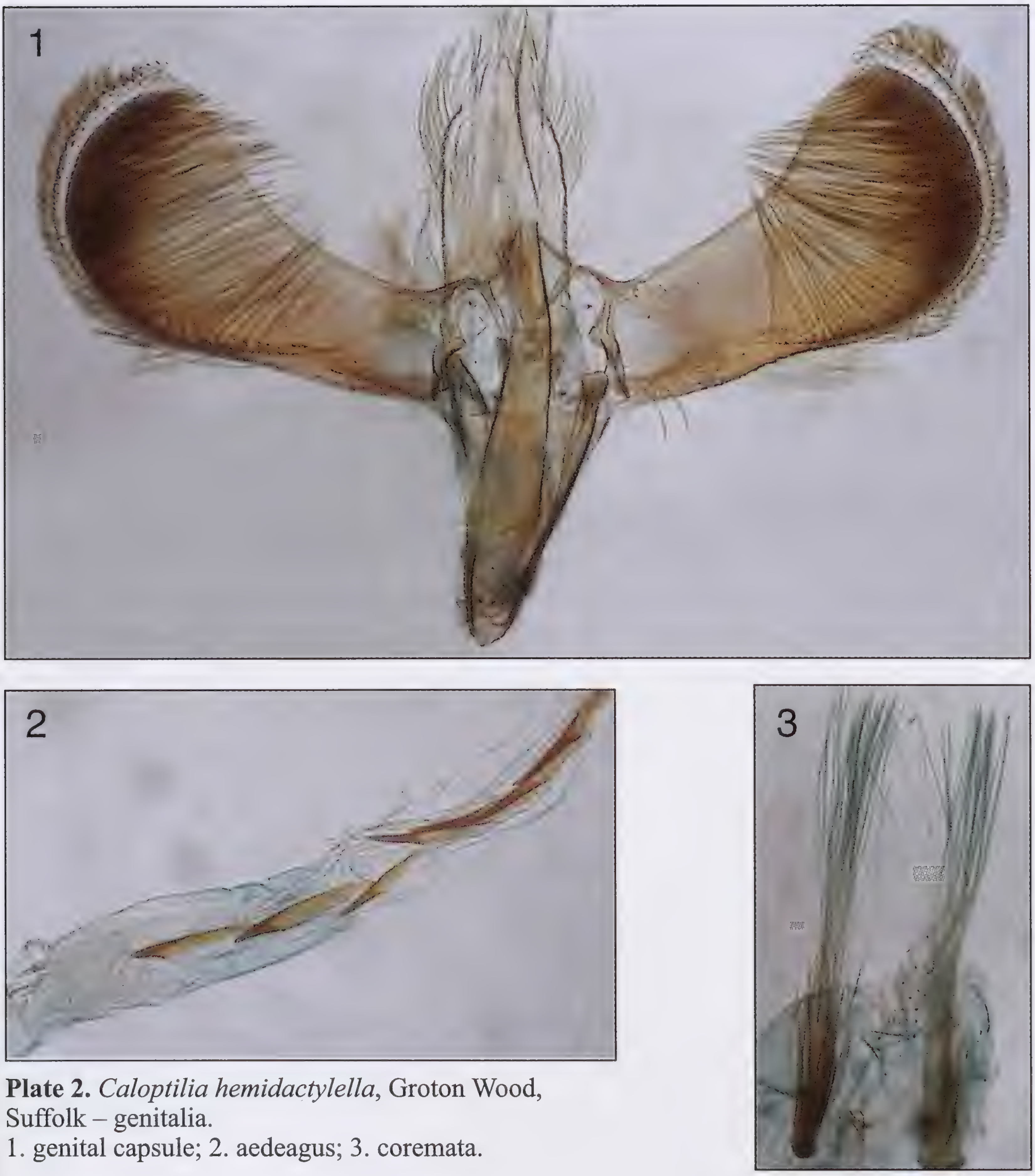


Plate 2. *Caloptilia hemidactylella*, Groton Wood, Suffolk – genitalia.
1. genital capsule; 2. aedeagus; 3. coremata.

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Emmet, A. M., 1991. Chart showing the life history and habits of the British Lepidoptera. In Emmet & Heath (Eds.) *Moths and Butterflies of Great Britain and Ireland* 7 (2). Harley Books.

Sexton, 2012. *Caloptilia hemidactylella* (D.& S.) (Lep. : Gracillariidae): A rare species discovered in Northumberland. *Entomologist's Rec. J. Var.* **124**: 231 – 233.

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THE DISCOVERY OF *BRACHMIA INORNATELLA* (DOUGLAS, 1850) (LEP.: GELECHIIDAE) IN NORTH HAMPSHIRE, WITH NOTES ON ITS LIFE HISTORY AND A LARVAL DESCRIPTION

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Abstract

The discovery in 2003 of a colony of *Brachmia inornatella* (Douglas, 1850) (Lep.: Gelechiidae) in North Hampshire (VC 12) is reported, together with notes on the life history and a larval description.

Keywords: *Brachmia inornatella*, Gelechiidae, Lepidoptera, habitat, life-history, larval description, *Phragmites australis*.

Introduction

Brachmia inornatella (Douglas, 1850) (Lepidoptera: Gelechiidae) is a rather scarce species in Britain, largely confined to the south-east and East Anglia. The adult may be found in beds of Common Reed *Phragmites australis*. It is on the wing in June and July, and has been observed flying freely at dusk, but often confined to just a small part of the reedbed and after dark it is somewhat attracted to light. Such information as is known about its life history is summarised in Sterling (2002), who reported that the larva was stated by Meyrick ([1928]) to feed in the stems of Common Reed between September and April. However, the larva appears until now to be undescribed.

Discovery of the species in North Hampshire

The Millfield Local Nature Reserve (LNR) is a 13.35ha area located to the east of Old Basing, near Basingstoke, Hampshire, within the 1km O.S. square SU 6653. The LNR is close to the River Loddon, and is recognised as a Site of Importance for Nature Conservation, consisting mainly of grassland, scrub and hedgerows. Outside of the LNR boundary, the area is bordered by wet woodland and flood plain which includes a small area of dense reedbed, of no more than 0.4ha in extent. As part of his role as an active volunteer warden with the Millfield LNR Conservation Group, James Andrews (JA) regularly runs moth traps on the reserve and in the rear garden of the Millstone public house which adjoins the reserve and reedbed.

On the night of 29 June 2003, JA set up a 15w actinic Skinner trap at the far end of the garden of the public house. The evening was very humid and an electrical storm developed, prompting JA to shut the trap down. At the bottom of the trap he discovered a nondescript grey micro moth which he could not identify and brought it to the attention of MW, who with reference to Sterling (2002) identified it as *B. inornatella.*

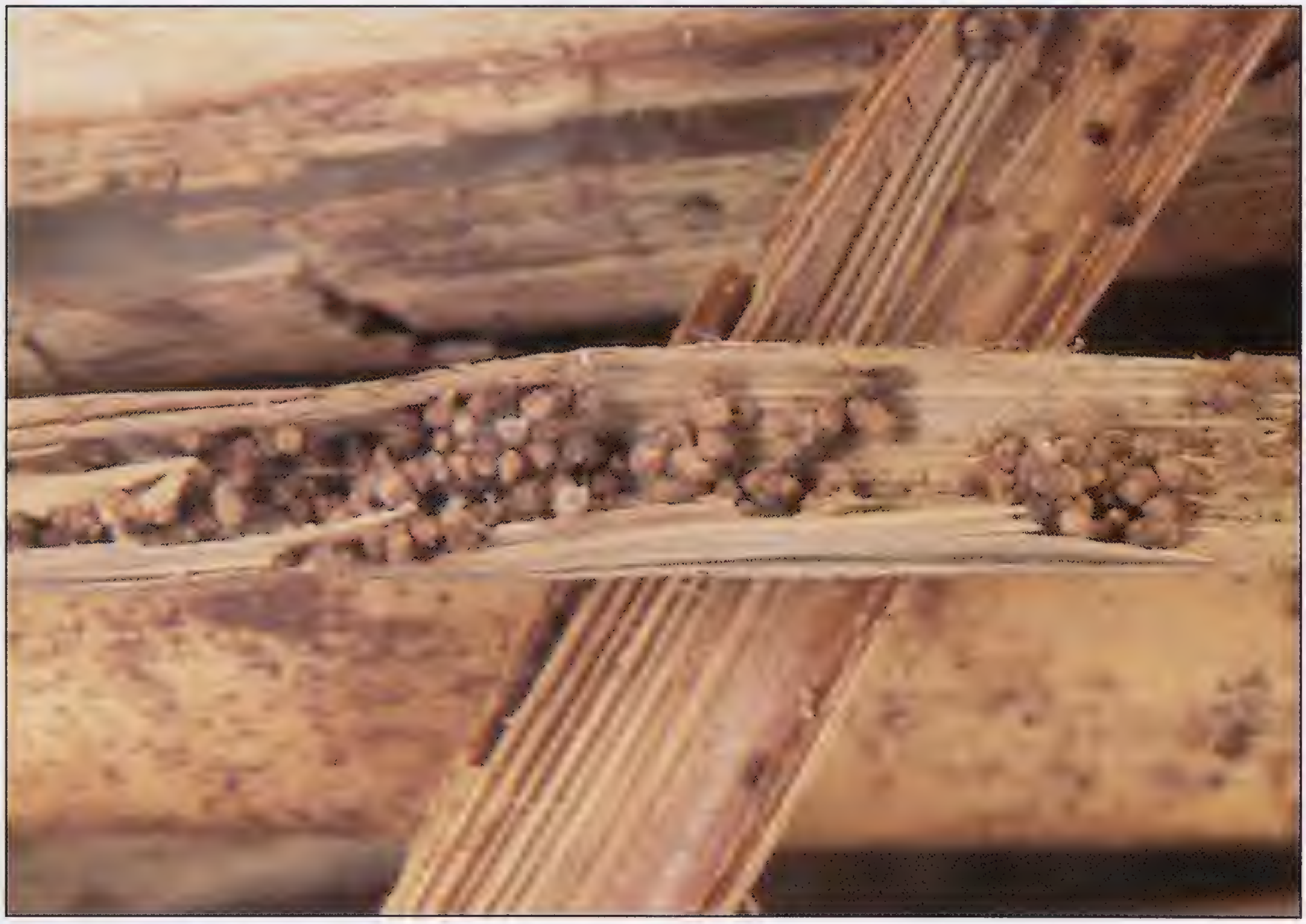

Plate 1. Feeding signs of *Brachmia inornatella* (Douglas) within a dead stem of Common Reed.

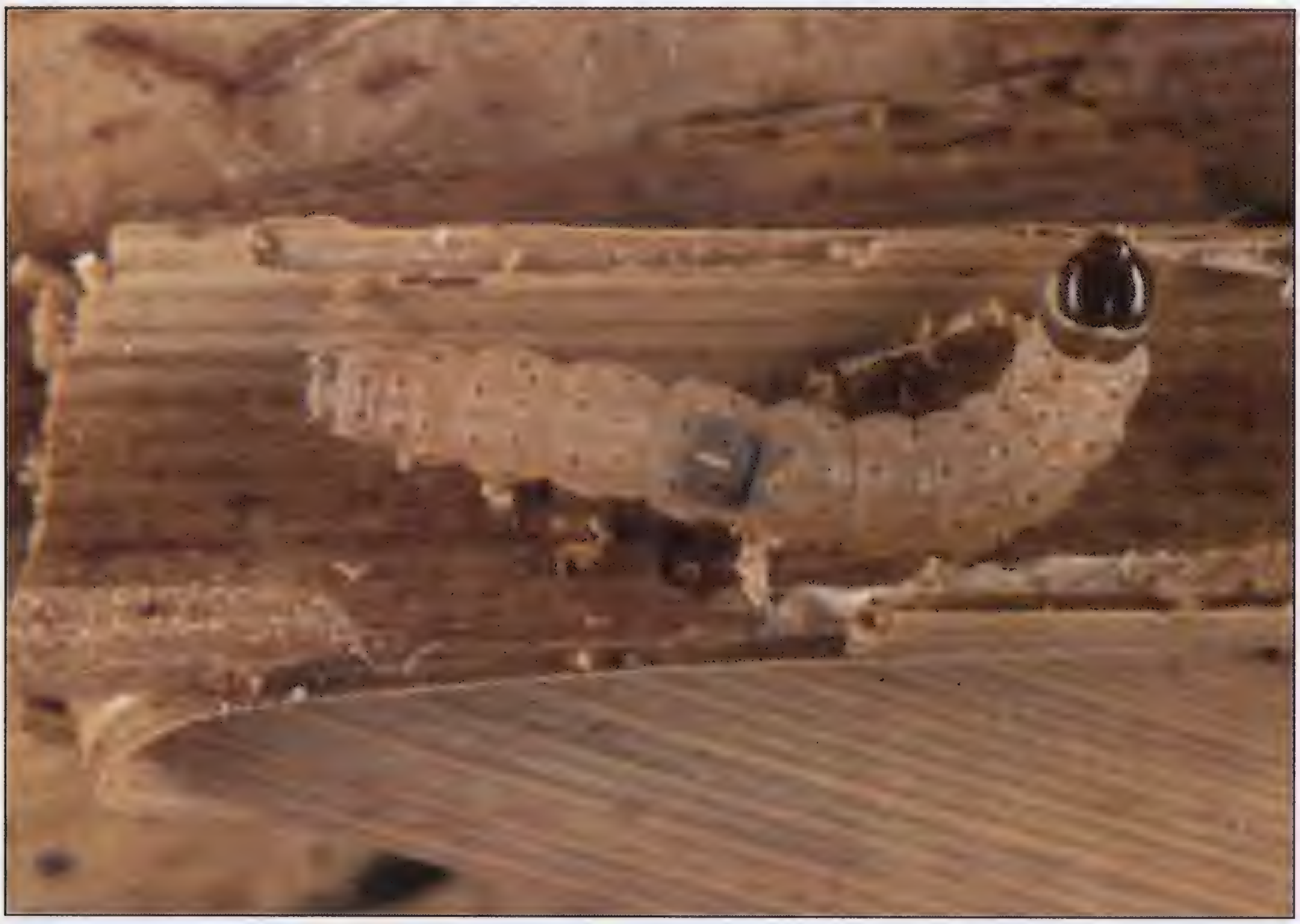

Plate 2. The larva of *Brachmia inornatella* (Douglas).

Not having previous experience of the species and given the extraordinary location, a photograph was taken of the specimen and the identity confirmed by JRL.

With all known sites for this species being at least 120km as the crow, or rather the moth, flies and little suitable habitat in the area other than the local reedbed which was no more than 50m from the trap site, the find indicated a strong possibility of a previously undiscovered colony. However, despite JA and MW running occasional trapping sessions at the same site over the next couple of years, no more records were obtained. By 2005, it was becoming obvious that if *B. inornatella* was present locally, it must not be a strong flyer or at least only locally attracted to light, and therefore it might be necessary to gain access to the reedbed to confirm or otherwise the existence of a local population. Through the use of a brush-cutter, JA was able to cut a path through the edge of the reeds, thereby allowing MW to set up a Robinson 125W mercury vapour trap on the margin of an area of damp woodland and reed bed on 17 June 2005. The result was spectacular: after dusk, large numbers of *B. inornatella* could be seen making their way through the nettles which separated the trapping area from the reedbed; they were flying weakly, approaching the light by fluttering seemingly from leaf to leaf. On returning to the trap at dawn, MW counted 78 individuals in the trap, but this represented only a sample of the total number seen the previous night, which were noted in their ‘hundreds’. The remainder of the trap content that night was unremarkable, with just nine species in total – although one was *Ancylis diminutana* (Haworth), itself a first for the vice county.

A further individual was netted by JA on the edge of the reedbed on 7 July 2005. Since that time, owing to various issues including the density of vegetation, the increased wetness of site and a lack of available time and resources to open up access, the site has not been worked again. However, there is no reason to suspect *B. inornatella* should not continue to be present, although subsequent trapping sessions in the garden of the public house and on the LNR itself have not produced any more records.

Finding of the larva

Prompted by the results of the trapping session recounted above, on 8 December 2005 the authors, accompanied by JA, Paul Boswell and Tony Dobson, visited the reedbed at Old Basing to search for larvae. Almost all the current year's growth of Common Reed had died, and there was plenty of dead and decaying material probably from the previous year amongst it. By this date there was no external sign of the presence of a larva, although MW had noted in the autumn that a number of the leaf shoots appeared slightly withered and discoloured, and within one of these he had found a dead larva, probably of *B. inornatella*. We broke open the upper section of dead stems below the shoot, and carefully parted dead leaves of the shoots. From time to time we came across scattered pale brown frass, and a little silk, indicating the presence of a lepidopterous larva (see Plate 1). A very few live larvae were discovered singly amongst the feeding signs, each resting on a finely woven silk pad. What appeared to be fresh frass was also observed in decaying reed leaves on the surface of the litter layer; these leaves are presumed to have died the previous autumn and it is unlikely there would have been external evidence of larval presence in this material.

Larvae were kept over winter within their spinnings in a flower pot covered with netting. The contents were examined at the end of April 2006, and a single larva was found. This larva pupated some time during May, and an adult *B. inornatella* emerged on 12 June.

Larval description

Final instar (Plate 2). Head dark brown; prothoracic plate brown, mottled darker posteriorly with a narrow, whitish, medial division; body whitish especially ventrally, but suffused pale brownish dorsally, the brownish colour grading fainter towards the thoracic segments, with a narrow brown dorsal line more or less visible and brown pinacula; anal plate suboval and brown; thoracic legs and prolegs translucent greyish brown, anal claspers each with a small brown sclerotized plate.

Comments

The discovery of a colony of *B. inornatella* in North Hampshire at such a distance from previously known areas in England will hopefully prompt others to try to find more colonies of the moth. It would appear that even a very small reedbed is capable of supporting the species, and probably an unmanaged reedbed will support larger numbers than one that is regularly cut since the larva feeds and overwinters in the dead plant material. Such sites are commonplace throughout England. Experience from the Old Basing site suggests recording efforts should focus on accessing the reedbed itself to search for the moth, and not rely on the moth flying to traps set fairly close by.

Acknowledgements

The authors would like to acknowledge Wadworth & Co. Ltd for providing access to the private grounds of the Millstone public house for the light trapping sessions which led to the initial find of the species in the area, and to Sven Godesen for permitting access to the reedbed.

References

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On butterflies in moth-traps, and the migration of the Red Admiral butterfly *Vanessa atalanta* (L.) (Nymphalidae) and the Silver Y moth *Autographa gamma* (L.) (Noctuidae)

On the night of 24 August 2012 I captured a Red Admiral *Vanessa atalanta* (L.) in the Robinson light trap in my Peterborough garden, along with two Silver Y *Autographa gamma* (L.) of the solid, dark form, all in fresh condition. The trap had not been set up until dusk, and was inspected early in the morning, so the Red Admiral almost certainly entered the trap after dark along with the moths. Over the next three weeks the number of Red Admirals in our garden built up to a peak of nine individuals nectaring at flowering Ivy *Hedera helix* on 19 September, then tailed off, though no more were seen in my light-trap. Other contacts were also seeing large numbers in the Midlands during the first half of September. In my experience it is not unusual to find the occasional butterfly in a light-trap. Once or twice I have had a Purple Hairstreak *Quercusia quercus* (L.) in my trap when operating under oak trees *Quercus* spp. – probably these butterflies had dropped out of the canopy above, disturbed by the bright light. I also recall a few other species in light traps over the years, particularly Meadow Brown *Maniola jurtina* (L.) and Ringlet *Aphantopus hyperantus* (L.), when operating in meadows and woodland rides. Red Admirals in particular and occasional Large Whites *Pieris brassicae* (L.), seem to be a bit more frequent than the other species. I can recall several of each, at inland locations – larger numbers would be expected during influxes on the south and east coasts. Both species migrate in large numbers and the Red Admiral may be ending up in light traps during a back migration southwards through the British Isles in the late summer and autumn. At Peterborough we generally do not see much evidence of migrant moths compared with on the south coast, but I find fluctuations in the numbers of Silver Y moths here often tie in with coastal influxes. This autumn, Silver Y moths were captured in the garden trap on six out of the seven times I operated it between 24 August and 15 September 2012 and the peak number, of four individuals on 15 September, coincided with the peak numbers of Red Admirals visiting our Ivy. In the second half of September and early October we had some seriously cold nights, with minimum temperatures falling to only 3°C. The Silver Ys disappeared completely from the next five catches until four more were seen together on the much milder night of 23 October when the minimum temperature was 12°C. Again these moths were all in immaculate condition. Interestingly, just a couple of days earlier, on the weekend of 20-21 October I had been on the Norfolk coast due east of us at Mundesley near Cromer and all night until 03.00hrs I heard Redwings *Turdus iliacus* calling as they were flying over. I saw dozens of them in the hedgerows eating berries and roosting the following morning and learned that thousands had been recorded arriving at east coast observatories that weekend. Perhaps the Red Admirals and the Silver Y moths were mirroring the movements of the better-known and more intensively studied Redwings?

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PEMPELIELLA ALIBOTUSCHELLA (DRENOWSKI, 1932) (LEP.: PYRALIDAE, PHYCITINAE) *BONA SP.* AND DISCOVERY OF THE MALE

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Abstract

Pempeliella alibotuschella (Drenowski, 1932) is confirmed as a valid species. It was known from a single surviving female specimen (Syntype) collected in 1930; this specimen is re-designated as Lectotype and is formally described. Its status as a valid species and its placement within genus *Pempeliella* sensu Caradja, 1916 is confirmed as correct. We also report two male examples captured in the vicinity of the type locality during 2012 and a female from the Eastern Rhodopes Mountains collected during 2010. The male is described for the first time. Male and female genitalia are figured for the first time.

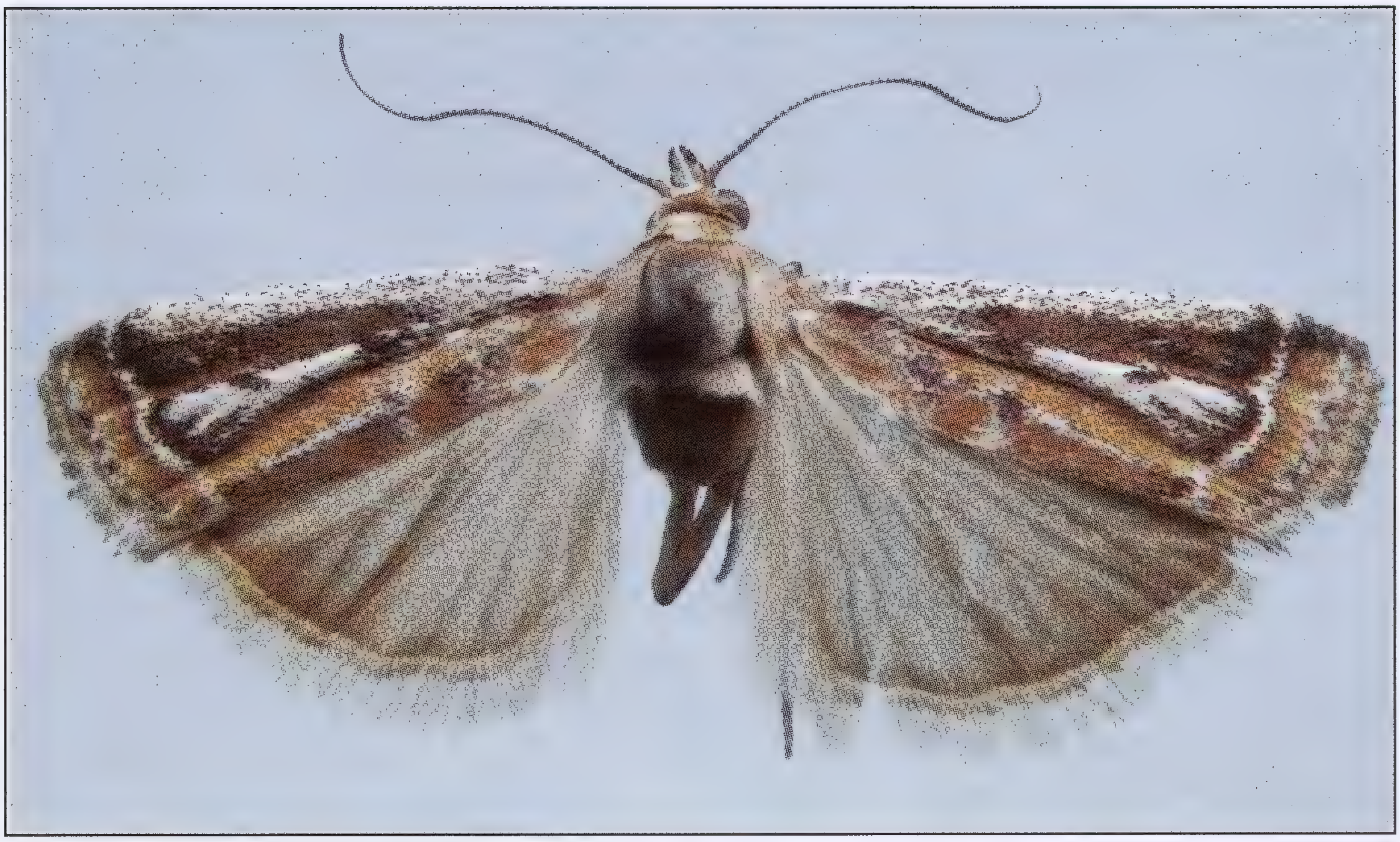
Keywords: Lectotypus, Pyralidae, Phycitinae, *Pempeliella alibotuschella*, Bulgaria, Balkans, genitalia.

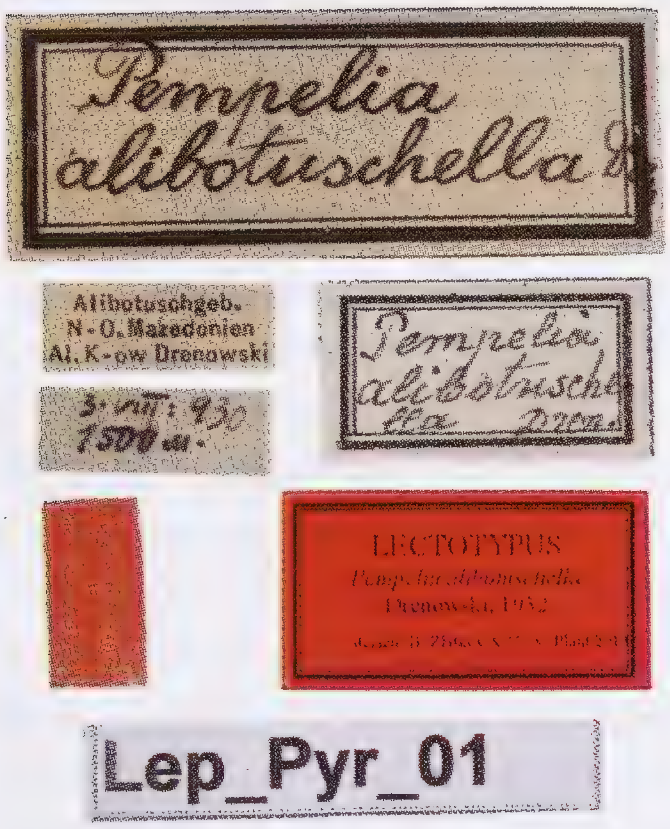
Introduction

Pempeliella alibotuschella (Drenowski, 1932) was described from two female specimens, collected in August 1930 from Alibotush (now called Slavyanka) Mountain in the extreme south-west corner of present day Bulgaria. Drenowski (1932) states "*I caught two absolutely fresh and perfect female specimens, of which the great specialist lepidopterist Prof. Dr H. Rebel said that they belong to a 'new and beautiful species'. It flies at Alibotush, near Border Post No. 1 on the northern slopes, at altitude of 1000-1500 m, south of Paril village, at the beginning of August 1930*".

One of these two specimens is in coll. NMNHS (accession number NMNHSINV 0306); this bears six labels: (1) "Pempelia / alibotusche / lla Dren." which is hand written; (2) a typed label "Alibotuschgeb. / N – O. Mazedonien / Al. K-ow Drenowski" and on the back of this label, hand written "3.viii.1930 / 1500 m."; (3) a plain red rectangular label; another handwritten label "Pempelia / alibotuschella Dren."; red printed label "LECTOTYPUS / Pempelia alibotuschella / Drenowski, 1932 / design. B. Zlatkov & C. W. Plant 2013" and printed label "Lep_Pyr_01". This specimen and all of its labels are reproduced here (Plate 1).

Although some of his material, primarily syntypes of taxa such as *Phtheochroa drenowskii* (Rebel, 1916) (Tortricidae) and *Hadena drenowskii* (Rebel, 1930) (Noctuidae), may be found in the museum at Sofia, for entirely personal reasons Drenowski deposited his collection in the museum at Skopje, Macedonia. To date, a search of European museums has failed to turn up the missing specimen and so it is presumed that the second syntype of *alibotuschella* went to Skopje and was destroyed along with the rest of the collections by an earthquake and subsequent flood.





Pempelia alibotuschella ♀

Alibotuschgeb.
N-O. Mazedonien
Al. K-ow Drenowski

3. viii. 930
1500 m.

Pempelia alibotuschella Dren.

LECTOTYPUS

Lep_Pyr_01

Plate 1: 1. *Pempeliella alibotuschella*. Lectotype female, Slavyanka (= Alibotush) Mountain, 1500 m., [south of Paril village], 3.viii.1930 Leg. Drenowski. In coll NMNHS (NMNHSINV 0306); 2. Data labels from Lectotype female.

During routine entomological survey work, BZ visited Slavyanka (formerly Alibotush) Mountain in the company of Ognyan Sivilov on 9 August 2012. The weather was good in the late afternoon, but a storm arose in the evening and they decided to set only two actinic traps and one 160 Watt mercury-vapour (Hg) bulb (type MBFT) powered by a generator on south-facing, very dry, steep slope covered by sparse *Juniperus oxycedrus* and *Pinus,* with the herbaceous vegetation represented mainly by *Thymus, Inula aschersoniana* and *Stipa.* Two male examples of *alibotuschella* (Figs 1 & 2) came to the latter trap. The 2012 trap locality is close to the type locality, but at a lower altitude of 820 metres asl, near Nova Lovcha, a village nestling in the valley separating Pirin from Slavyanka. Recognising the significance of this discovery, BZ immediately informed CWP, who is undertaking a review of Bulgarian Pyraloidea, who confirmed the identification. Subsequently, CWP searched the Bulgarian pyralid material from the collections of NMNHS and Sofia University (currently in his possession), and found a further female specimen amongst the material collected in the East Rhodopes Mountains of Bulgaria at Ada Tepe, near Krumovgrad, 380m, 5.viii.2010, Leg. B. Zlatkov & Ts. Ganeva. As far as we are aware, there are no other records of *alibotuschella.*

Recognition

Drenowski (1932) presented a formal description in Bulgarian and German. A few typographical errors are apparent in the German text, which is repeated here: "*Diese Microart steht der* ornatella *sehr nahe. Der allgemeine Farbenton auf der Vorderflügeln lehmgelb ist – heller als bei* ornatella*; alle Merkmalen wie, Bänder, Mackeln, Häcken, Schatten stärker und schärfer als bei* ornatella *entwickelt. Ein länglicher dreifingeriger, weisser Fleck auf der hinteren länglichen Discoidalader sich aus der Grundfarbe ganz deutlich und auffallend aufhebt.*

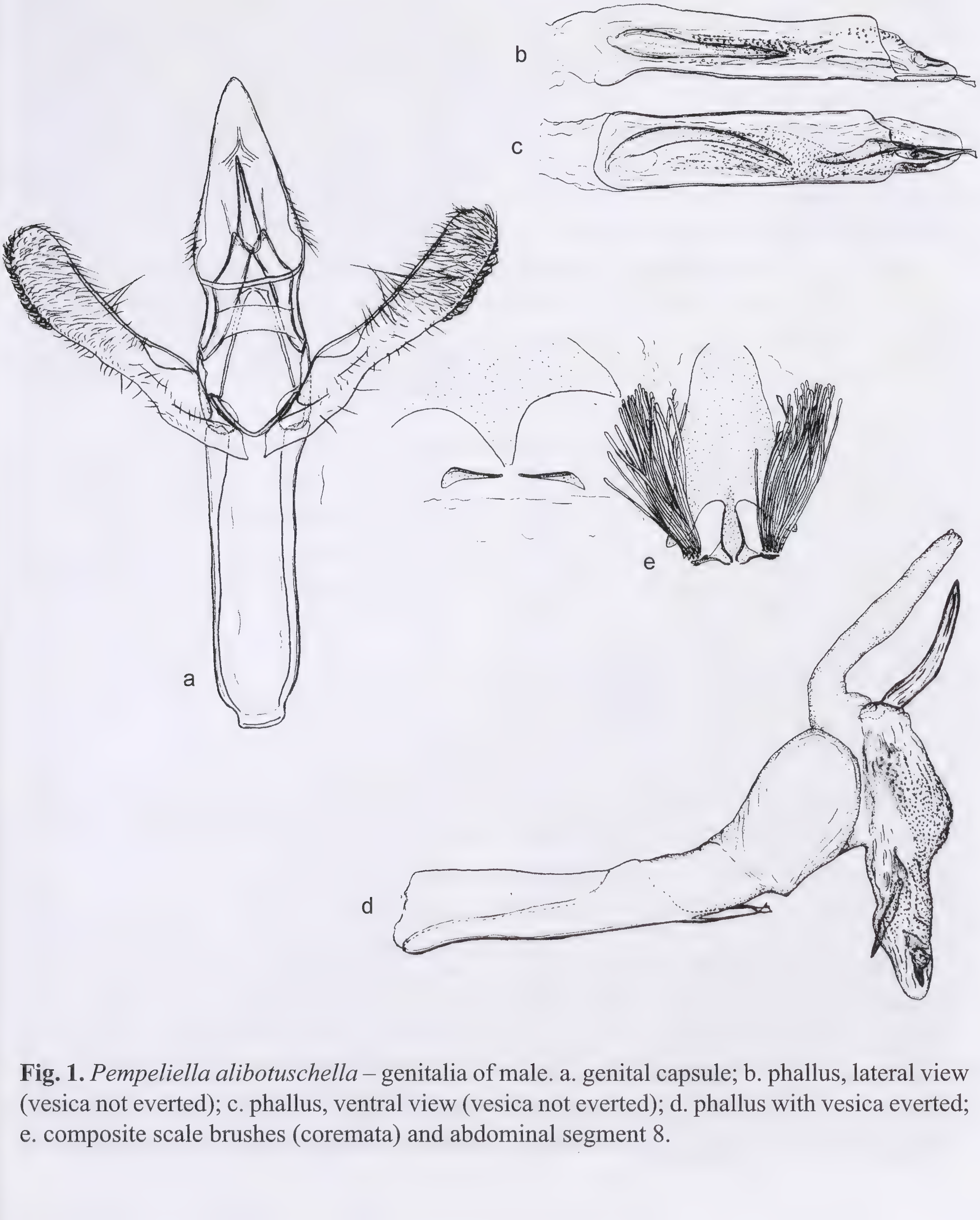


Fig. 1. *Pempeliella alibotuschella* – genitalia of male. a. genital capsule; b. phallus, lateral view (vesica not everted); c. phallus, ventral view (vesica not everted); d. phallus with vesica everted; e. composite scale brushes (coremata) and abdominal segment 8.

Die Hinterflügel gelblich hellgrau, die eine deutliche Belichtung genen dem Flügelwurzel u. d. Abdomen aufweisen. Die Rückenseite des Kopfes, d. Thorax u. d. Abdomens gelblichweiss ist. Am Ende d. Abdomens ein dottergeblichen Buschel vorhanden ist. Die Palpen von oben und unten weiss sind, aber in den Seien drei braune Fleckchen besitzen. Braun ist auch das Endglied derselben."

This translates as follows: "*This micro species is very close to* ornatella. *The overall colour of the fore wings is clay-yellow – lighter than* ornatella*; all features such as fasciae, spots, striguli and shadows are stronger and more distinct than in* ornatella. *An elongated three-fingered, white spot on the rear longitudinal discoidal vein stands out clearly and conspicuously from the ground colour. Hind wings yellowish-light grey, significantly paler on the wing bases and at the junction with the abdomen. The back of the head, thorax and abdomen are yellowish-white. At the end of the abdomen is a yolk-yellowish tuft. The palps are white at the top and bottom, but with three small brown spots; the terminal segment is also brown.*"

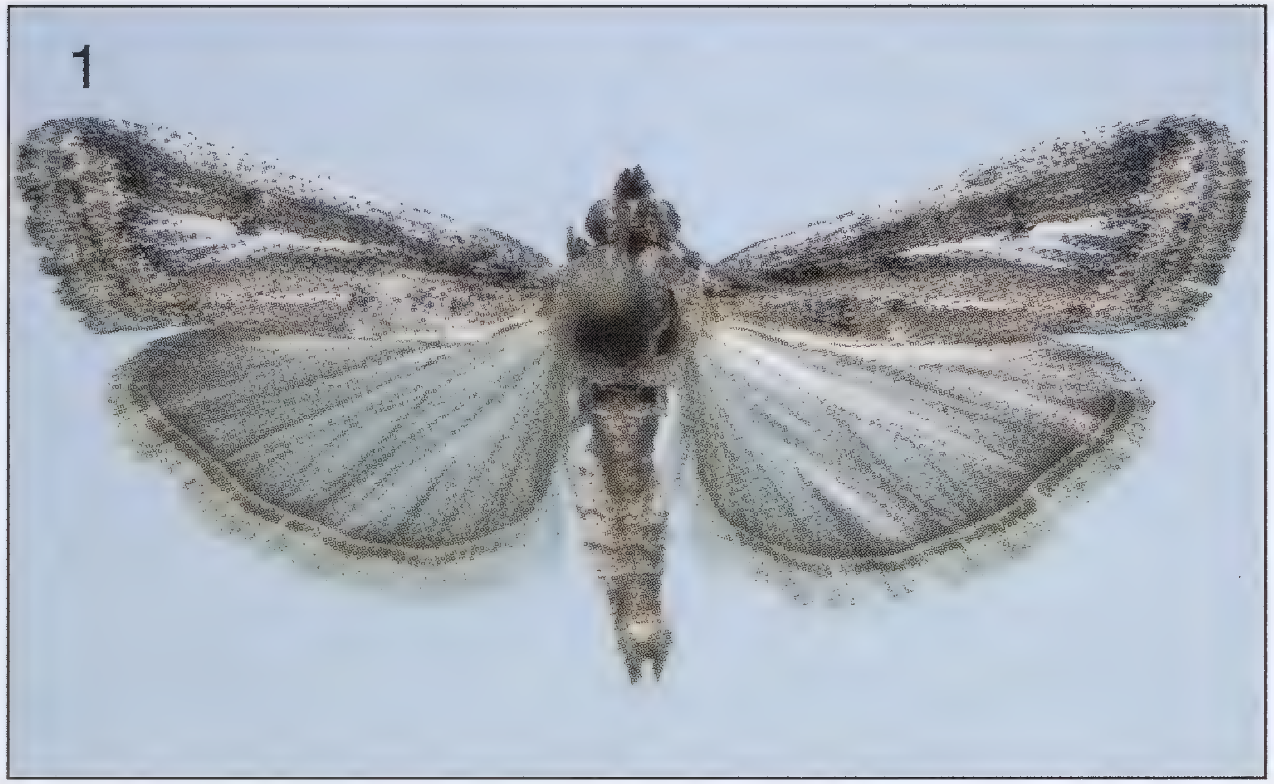
Externally, the adult moth very closely resembles *Pempeliella ornatella* (Denis & Schiffermüller, 1775), which is a widespread species in Bulgaria (CWP, personal observations). In the various separate mountain ranges of south-west Bulgaria (Pirin, Rila, Slavyanka and others) several species of Lepidoptera persist as distinct sub-species; since the extant syntype had never been dissected there was, therefore, a small but significant possibility that the single female *alibotuschella* might only be a local form of *ornatella*. As the males and the female now appear to be morphologically identical, one of the two males was dissected (Fig. 1); it is clearly a distinct species. Following this finding, we then dissected the genitalia of the female syntype in NMNHS (Fig. 2a, b); this also confirmed that *Pempeliella alibotuschella* is a valid species.

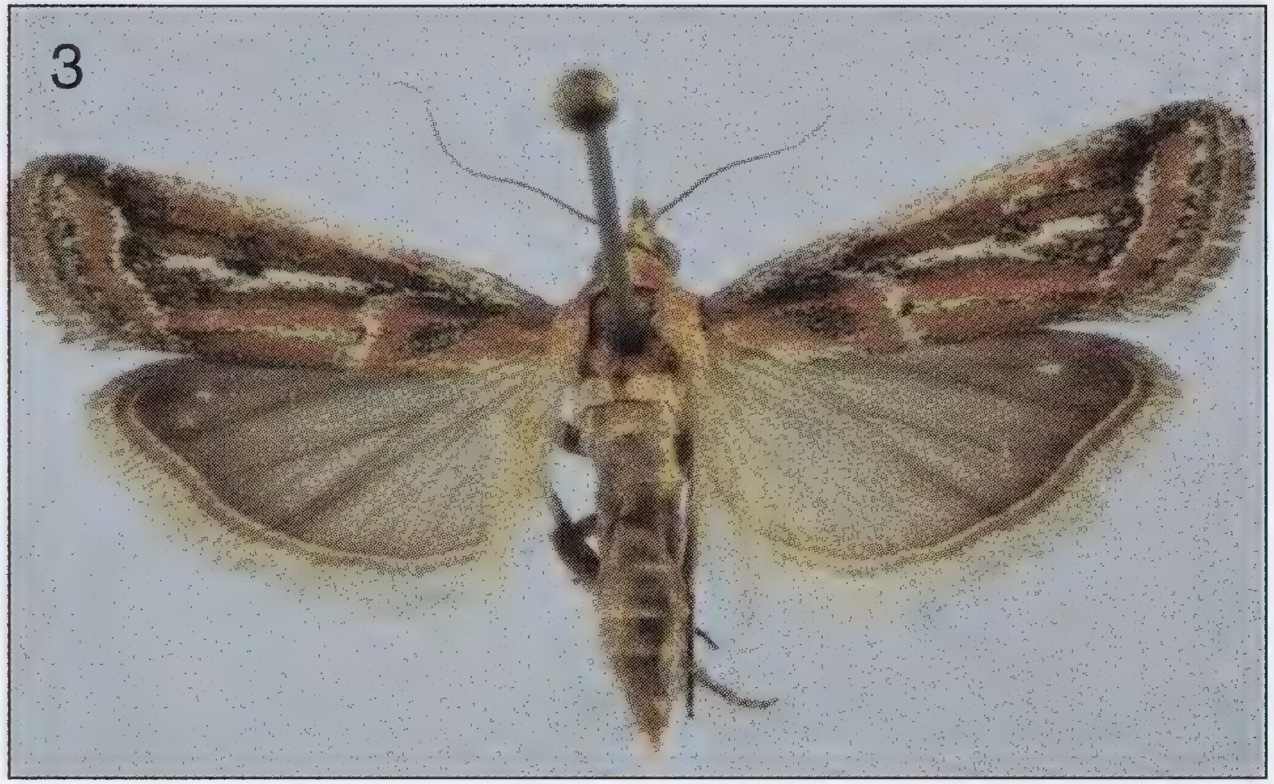
The species description presented by Drenowski (1932) may or may not have been based on the syntype female in NMNHS and so we now re-describe this specimen here and in order to provide nomenclatural stability, this female is now also re-designated as the lectotype.

Pempeliella alibotuschella* (Drenowski, 1932) *bona sp.
= *Pempelia alibotuschella* Drenowski, 1932
= *Pempelia alibotuschella* Rebel & Drenowski, 1931 *nomen nudum*

Lectotype female (new designation): (Plate 1). Slavyanka (= Alibotush) Mountain, 1500 m., [south of Paril village], 3.viii.1930, leg. A. Drenowski. In coll. NMNHS (NMNHSINV 0306).

Head. Frons and vertex yellowish-grey. The neck bears a tuft of grey scales. Labial palpus with white basal segment; the second segment white with grey scales basally and sub-apically; the terminal segment white medially and grey laterally. Antennae filiform, about half the forewing length. The dorsal surface of all flagellar segments with basal two-thirds shining white and the apicial one-third brown, the ventral surface brown with multiple short fine cilia on each segment. Scape brownish. *Thorax*. Patagia pale brown with creamy white median parts; mesonotum grey with white postero-lateral





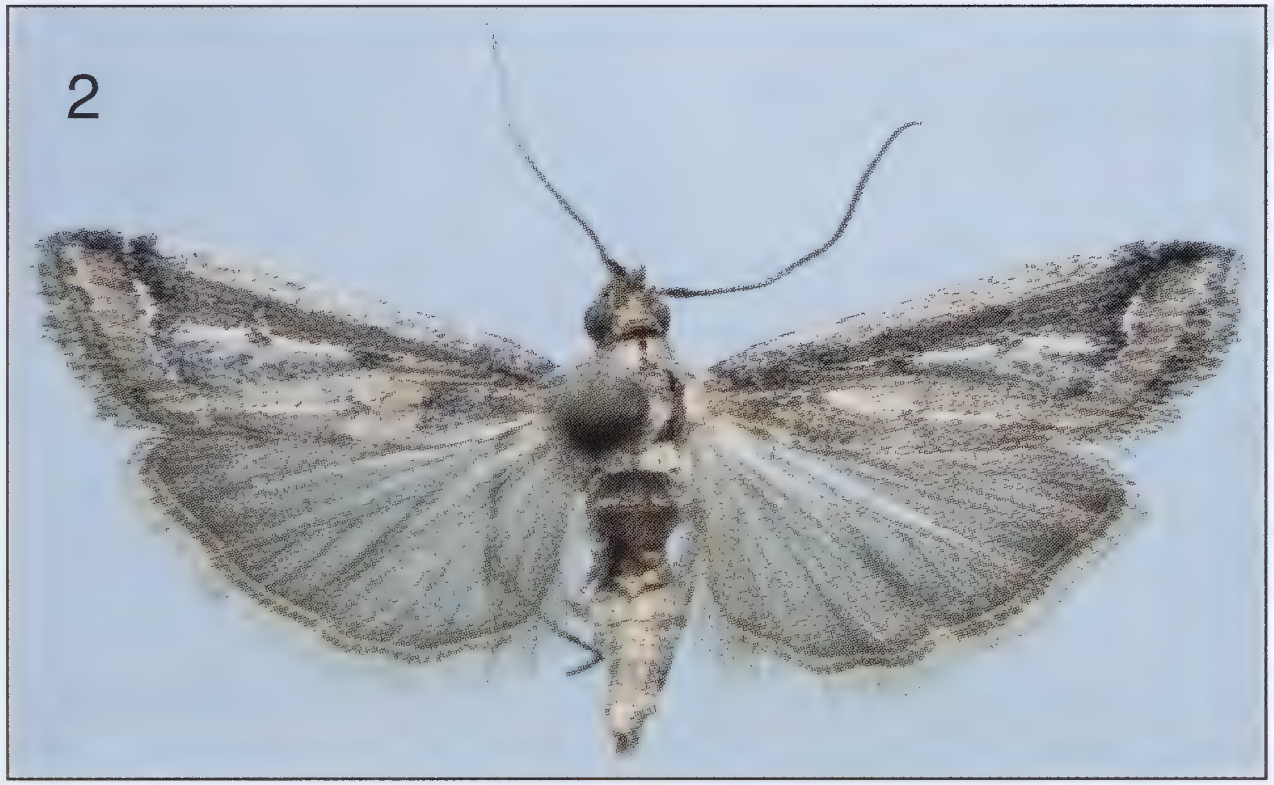


Plate 2. *Pempeliella alibotuschella* (Drenowski).1 & 2, males, southernmost slopes of Pirin Mountains, near Nova Lovcha village, 820 metres asl, 9.viii.2012, leg. B. Zlatkov & O. Sivilov. 1: the dissected male drawn at Fig. 1, in coll BZ (Sofia, Bulgaria); 2. in coll. CWP (Bishops Stortford, England). 3. female, East Rhodopes Mountains, Ada Tepe, near Krumovgrad, 380m, 5.viii.2010, Leg. B. Zlatkov & Ts. Ganeva.

parts; metanotum white; tegulae covered by white scales with pale brown tips. Forewing length 10.5 mm. Main colour of the forewing upperside clay-brown. Basal area with irregular black spot and black scales. Antemedian line rather indistinct, consisting of black and white spots. Costal edge with wide whitish line, sparsely irrorate with black scales. An elongate white spot with three finger-like branches and a small black spot in the middle is present in the discal area. Another black spot with the same shape is located above the former one. The white post-median line is bordered by a wide black internal line and a very narrow black external line. A narrow white line with diffuse black scales along the anal vein starts from the ante-median line and ends in the post-median line. Six ill-defined marginal dots are located in a white subterminal line. Cilia pale, with brown-grey basal and paler median lines followed by three narrower grey-brown lines. Underside of forewing brownish-grey with creamy white post-median line and a relatively wide stripe of the same colour along the inner (dorsal) margin. Hind wings pale grey, with slight ochreous tint, semi-transparent, darker at termen, cilia whitish with grey-brown sub-basal line. Underside as in forewing, but with whitish costal line. Coxae and trochanters creamy-white, femora and tibiae pale creamy-brown, concolorous with underside of thorax, the tibiae and tarsi darkened. *Abdomen* pale brownish-grey. *Female genitalia* (Fig. 2a, b). Antrum membranous, funnel-shaped; ductus bursae tubulous, slightly sclerotised; corpus bursae with sclerotised areas posterad and membranous anterad, the part near ductus bursae covered by small spines. Ductus seminalis enters the bursa at the dorsal side. A conical, heavily sclerotised dorso-laterally oriented extension is located nearby and connected with a large sclerotisation of corpus bursae that is also located dorsally. Two groups of stout, long, acute spines are presented at both sides of corpus bursae the larger of which are attached to the right side more posterad, and the smaller are located on the left side more anterad.

The Rhodopes female: (Plate 2, Fig. 3). East Rhodopes Mountains of Bulgaria at Ada Tepe, near Krumovgrad, 380m, 5.viii.2010, leg. B. Zlatkov & Ts. Ganeva. Apparent slight differences in the overall appearance of the moth are because it is in fresher condition, although the three distal branches to the white line are less pronounced.

Description of male: South-west Bulgaria, southern-most slopes of Pirin Mountains, near Nova Lovcha village, N41°25′41″; E23°43′16″, 820 metres asl (Plate 3), 9.viii.2012, leg. B. Zlatkov & O. Sivilov. 1 male (Plate 2, Fig. 1) in coll BZ (Sofia, Bulgaria), 1 male (Plate 2, Fig. 2) in coll. CWP (Bishops Stortford, England).

Males resemble the female to a great extent. *Head*. Antenna with dorsal surface of all segments shining white, the scape entirely so. The flagellar segments each with basal two-thirds shining white and the apical one third brown. Ventral surface brown scaled, with each segment bearing multiple fine cilia, each slightly less than half the width of the segment of origin. The basal five segments bear two sets of elongated scales, projected dorsally, those arising on the postero-ventral face brilliant white and those emanating from the antero-dorsal aspect light brownish, the two rows

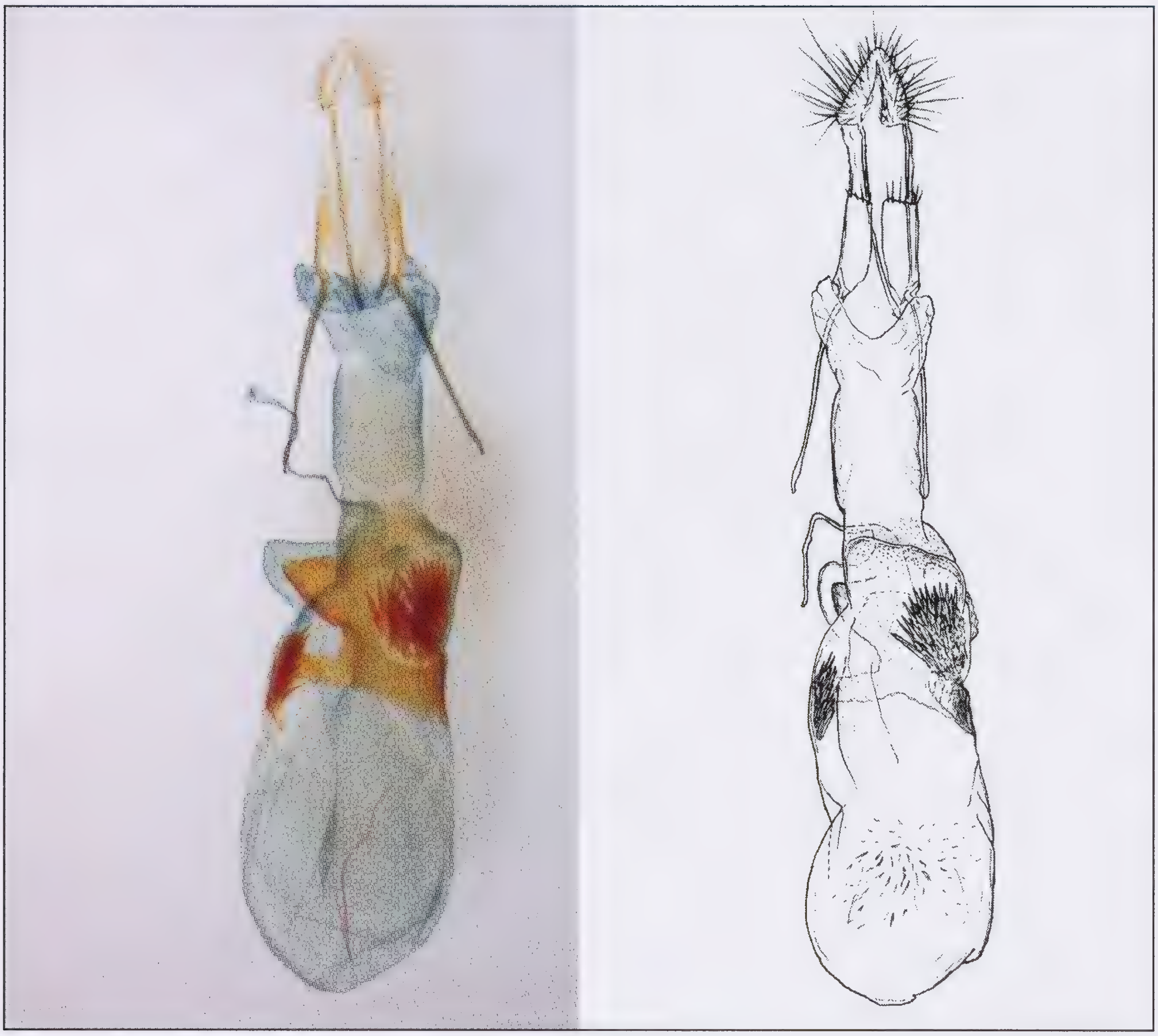


Fig 2. *Pempeliella alibotuschella* – genitalia of female lectotype. a: photographed (under glass coverslip); b. drawn (without compression).

enclosing the dorsal aspect of the segments to form the "knot" that is characteristic of the group (Plate 4). *Thorax*. Forewing length 11 mm. Basal area darker than in female, with numerous black scales and the white post-median line is less distinct on both upper- and underside. Coxae, trochanters, femora and tibiae pale creamy-brown, concolorous with underside of thorax and abdomen, the tibiae slightly darkened. *Male genitalia* (Fig. 1). Capsule unremarkable, typical of the genus. Valva elongate, narrow, unadorned, the ends rounded. Vinculum about as long as the valva. Uncus hood-like, apically acute, the scaphium weakly carinate, gnathos with a weak keel ventrally. Transtilla broad, very weakly sclerotised. Phallus bears two elongated apical processes on the ventral side, with pointed tip at left and with widened tip at right. Three cornuti are visible in the un-everted vesica: one large in the middle portion and two smaller in the apical part. Everted vesica (endophallus) starts with membranous cylindrical portion, then merges into wider, swollen section before ending in a sclerotised zone that bears several cornuti and spines. The largest cornutus is approximately 0.75 the length of the phallus and is attached near to the gonopore. A small thumb-like diverticulum is located between the cornutus and gonopore

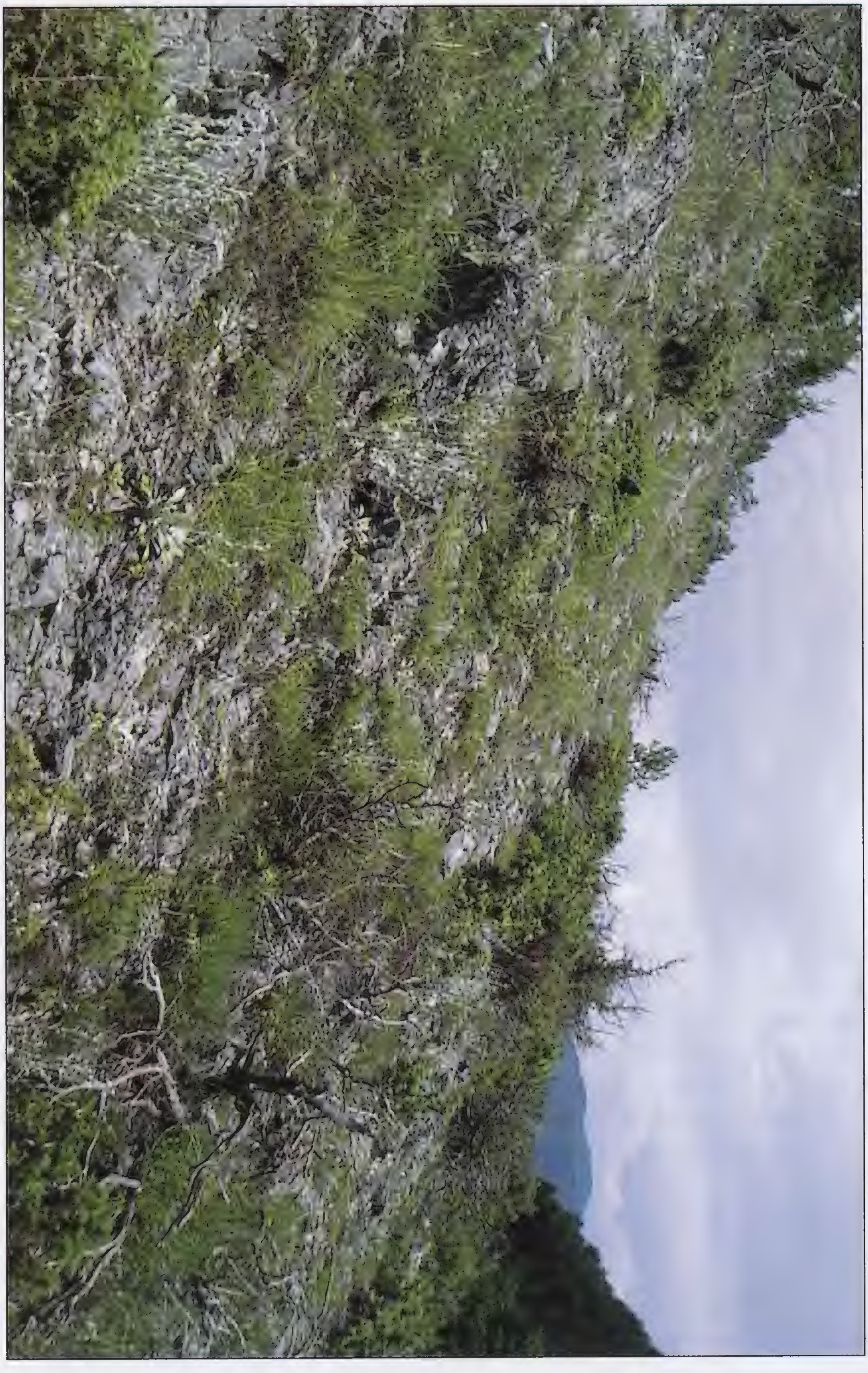


Plate 3. *Pempeliella alibotuschella* – capture locality of males Nova Lovcha, Pirin, at 820 metres asl. (photograph © Stoyan Beshkov).

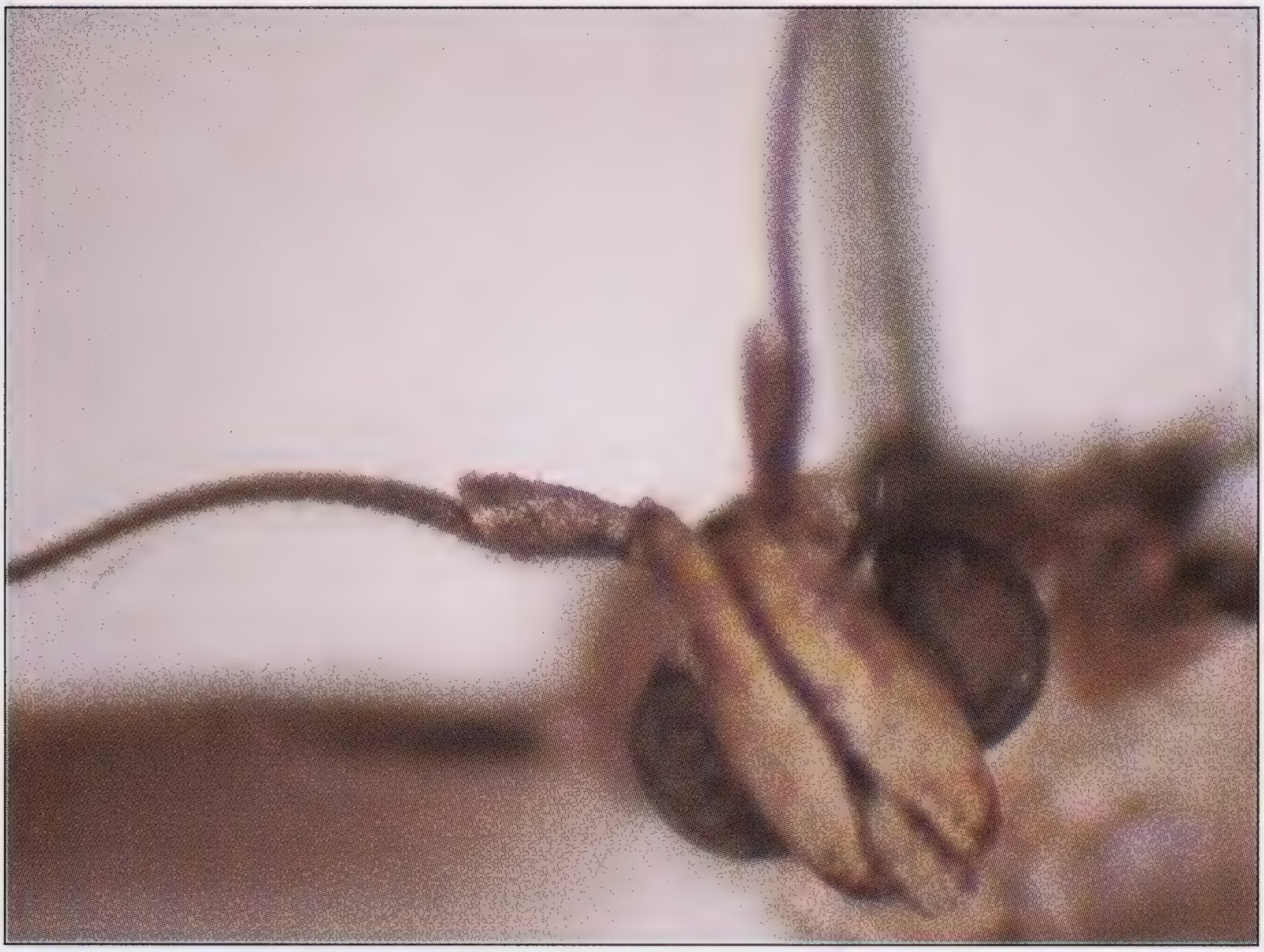


Plate 4. *Pempeliella alibotuschella* – ornamentation of basal antennal segments (the "knot-horn") of male.

(actually the end of the ductus ejaculatorius). The sclerotised portion of the vesica is oriented ventero-laterally, covered by spines and bears two cornuti: a larger one at right side attached to a very short cornutus, and a smaller one near the rounded apical part.

As far as we are aware, no other material representing *Pempeliella alibotuschella* (Drenowski) exists in any other collection. We draw attention to this specifically, because the 18th European Congress of Lepidopterology will be held, during 2013, less than one hour's driving time from the type locality and during the known flight period!

Taxonomic notes

The taxon *alibotuschella* was first mentioned by Drenowski (1931) as "*Pempelia alibotuschella* n. sp.". His excellent illustration of the insect later in the same paper is captioned *Pempelia alibotuschella* Rbl & Drenow. n. sp.". Confusingly, Drenowski then described it again (Drenowski, 1932) as "*Pempelia alibotuschella* Drenow. nova spec." The earlier of those two papers has no formal description, but presents drawings of the new species that are, in our view, fully adequate for immediate recognition of the taxon. However, Article 13.1.1 of the *International Code for Zoological Nomenclature* (*ICZN*) states that for taxa defined after year 1930 the name must be accompanied by a description or definition that states in words those characters or features that are purported to differentiate the taxon. According to the strict rules, therefore, *alibotuschella* Rbl & Drenow. 1931 is a *nomen nudum* and the original description of this taxon is *alibotuschella* Drenowski, 1932.

Generic position

Leraut (1979) transferred several species of *Pempelia* Hübner, 1825 into *Pempeliella* Caradja, 1916, but the taxon *alibotuschella* is not specifically mentioned in that paper and Patrice Leraut (personal communication) certainly did not make the transfer as he had not seen the species. That action seems to have been undertaken by Speidel, in Karsholt & Razowski (1996), who included *alibotuschella* within *Pempeliella* sensu Caradja, 1916, on the basis of Leraut's deliberations (Wolfgang Speidel, personal communication). The type species of *Pempeliella* is *Pempelia fraternella* Ragonot, 1887 (= *Pempeliella ornatella* ([Denis & Schiffermüller], 1775). Our present researches confirm that the taxon *alibotuschella* Drenowski, 1932 belongs within genus *Pempeliella* Caradja, 1916.

Acknowledgements

We are grateful to several friends and colleagues for valuable e-mail discussion and opinion; alphabetically, these are Jan Asselbergs (Zoologische Staatssammlung München), Martin Honey (Natural History Museum, London, UK), Patrice Leraut (Musé Nationale d'Histoire Naturelle, Paris, France), Adrian Plant (National Museum of Wales, Cardiff, UK), František Slamka (Bratislava, Slovak Republic), Wolfgang Speidel (Witt museum, zoologische Staatssammlung, Munich, Germany), Mike Wilson (National Museum of Wales, Cardiff, UK). Barbara Ismay (Long Crendon, UK) very kindly translated Drenowski's 1932 German description of *alibotuschella* into English and Wolfgang Speidel refined the translation from a Lepidoptera perspective. We are especially grateful to our very good friend Stoyan Beshkov (National Museum of Natural History, Sofia, Bulgaria) for his permission for us to dissect the genitalia of the Syntype, now Lectotype, in his charge and also for the excellent photograph of the habitat of *alibotuschella* in Plate 3. Ognyan Sivilov accompanied BZ on the collecting trip.

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A new site for the Purple Emperor butterfly, *Apatura iris* (L.) (Lep., Nymphalidae), in Oxfordshire

On 28 July 2012, I was searching for Heteroptera in Buckland Warren, Oxfordshire (Watsonian Berkshire, VC22), a site I had not previously visited. As I walked along a well-lit ride, I happened to look behind me and saw a large, black and white butterfly descend from an area of larches and oaks back along the ride and fly quickly towards me. It circled me about the knees and then carried on ahead, coming to rest on a large, rutted patch of soft mud (at O. S. grid eference SU 340961). There, I was able to approach within about a metre, and watch the insect, a fresh female Purple Emperor *Apatura iris* (L.), for several minutes, until it flew off back in the direction from which it had come.

This was my first close encounter with the Purple Emperor butterfly. Previously, I had only seen what I thought was this species at a distance, and been left with doubts as to whether it might have been a White Admiral, *Limenitis camilla* (L.), a frequently encountered species in Oxfordshire woodlands. However, there was no mistaking this insect, which was clearly distinct from the moment I first saw it.

Naturally, I reported my sighting, and was surprised to discover that the species was not known from Buckland Warren, and that I had found a new locality for this most-prized British butterfly. Given that this species has been closely followed (and hunted) for several centuries, I would have thought that all localities would be on record, but clearly the elusiveness of this insect still makes new discoveries possible.

I am very grateful to both Dennis Dell (Purple Emperor Champion) and Jim Asher (Recorder for Berkshire, Buckinghamshire and Oxfordshire) of the Upper Thames branch of Butterfly Conservation for confirming the status of my record and to Colin Williams and Mick Jones of the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust for putting me into contact with them.

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Nesting ecology of the solitary wasp, *Ansitrocerus nigricornis* (Curtis 1826)

During April of 2010, several solitary wasp trap nests, constructed from umbellifer stems and waterproofed cardboard were fixed to a beech stump in Hatfield Forest, Essex (Plate 1, Figs. 1 and 2). The traps were checked on a weekly basis until August when several of the hollow stems had been colonised, as indicated by a hardened mud plug in their open end (Plate 1, Fig. 3). These colonised nests were collected and opened later that day. Seven nests were opccupied and on opening they were shown to be divided into discrete brood cells divided by mud partitions. The mean number of brood cells per nest was 2.7 (SD ±1.4). The nests were maintained in boxes until the adult wasps emerged. These were identified by Dr G. Broad of the Natural History Museum as *Ansictrocerus nigricornis* (Plate 1, Fig. 4).

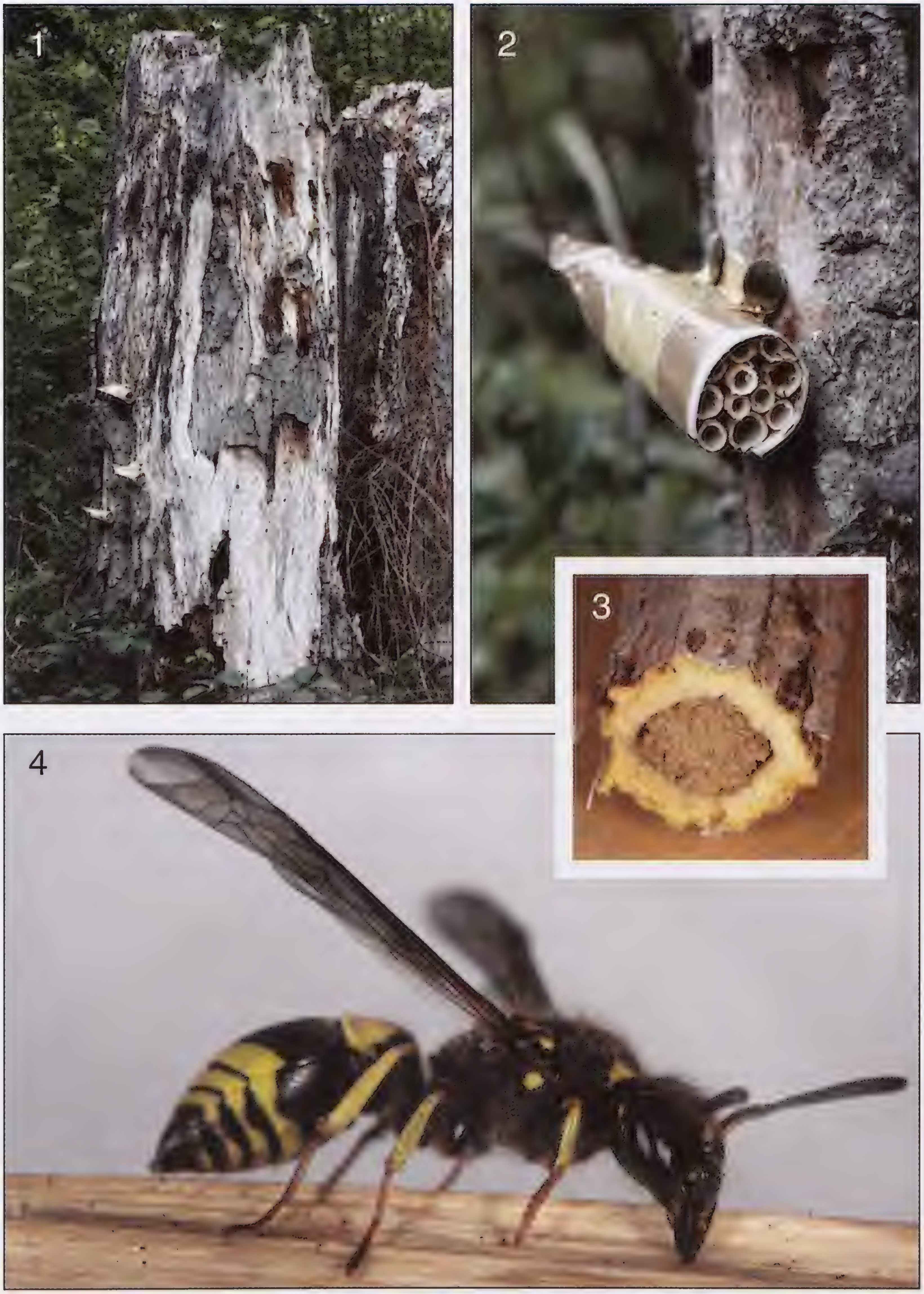

Plate 1. *Ancistrocerus nigricornis.* Hatfield Forest, Essex, 2012.
1. The dead beech tree on the edge of a ride in Hatfield Forest. Three trap nests can be seen on the stump; 2. Trap nests constructed from 100 mm lengths of umbellifer stems enclosed in waterproof cardboard; 3. Colonised umbellifer stem from the trap nests, as indicated by the mud plug; 4. Female *Ancistrocerus nigricornis* (Curtis, 1826).

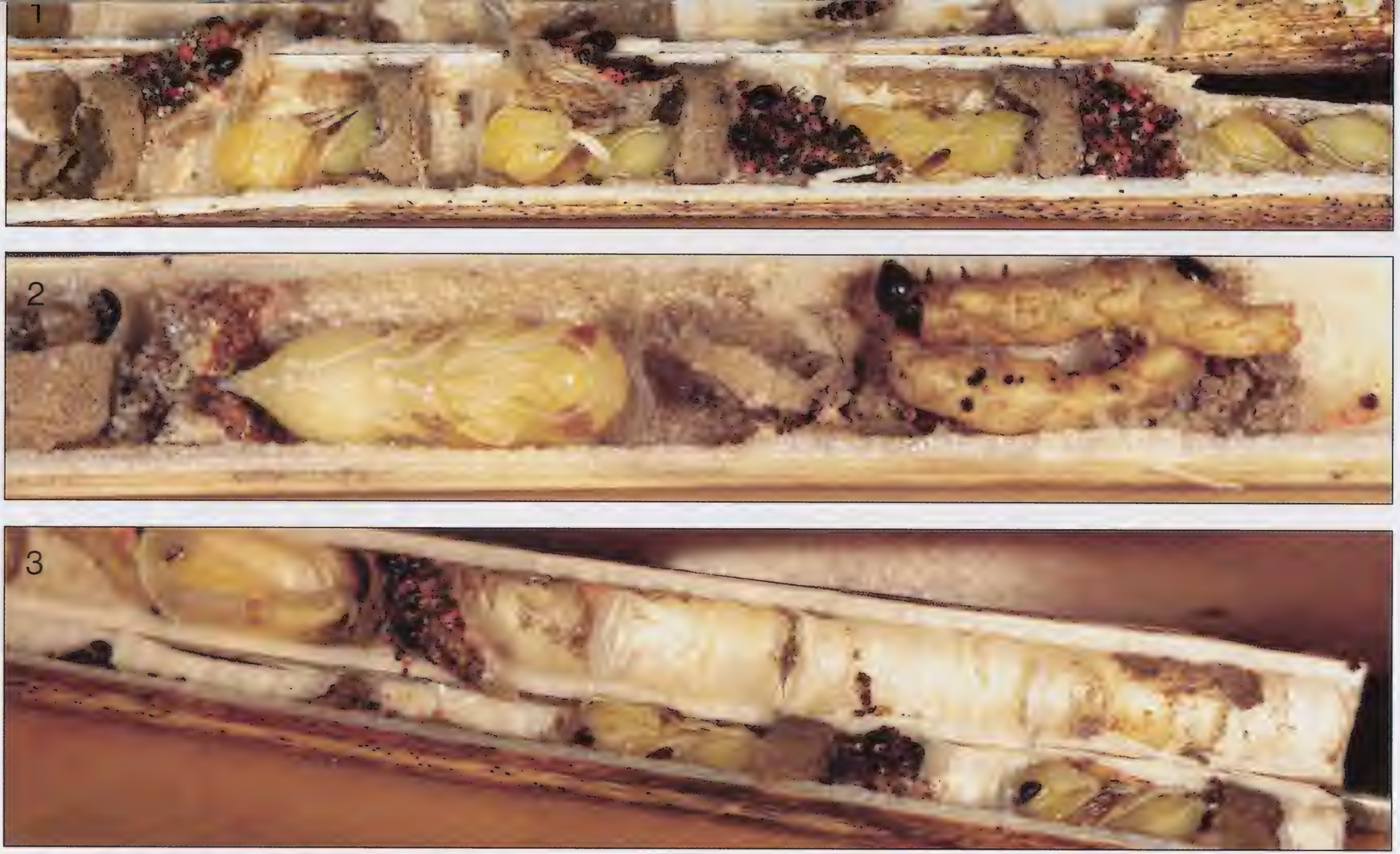

Plate 2. *Ancistrocerus nigricornis.* Hatfield Forest, Essex, 2012.
1. Opened trap nest revealing four *Ancistrocerus nigricornis* brood chambers. The mud partitions between each brood cell and the frass from the larval feeding activity can clearly be seen; 2. Two brood chambers from an *Ancistrocerus nigricornis* nest, one of which is stocked with prey. The prey are tortricid larvae; 3. Opened trap nest revealing three *Ancistrocerus nigricornis* brood chambers. The *A. nigricornis* in the left brood chamber (nearest the entrance) was parasitized by the ichneumon, *Ephialtes manifestator*. The pupa of this parasitoid, encircled by its long ovipositor, can clearly be seen.

In all but one of these brood cells the hymenoptera larvae had completed their development and consumed the prey provisioned by the adult female wasps. Prior to pupation the larvae had pushed the frass and prey remnants to the side of their brood chamber (Plate 2, Fig. 1). Examination of this frass yielded the head capsules of the prey and these were counted to determine the number of prey the adult females had stocked their nests with. The mean number of prey per brood cell was 6.2 (SD ±1.6).

The last brood cell to be constructed in one of the nests, the one nearest the nest entrance, was stocked with two prey items, but there was no developing wasp larva. Perhaps the egg laid by the female was unviable or perhaps the young larva perished. In any case, this allowed the tentative identification of the prey of these wasps as tortricid larvae (Plate 2, Fig. 2). The exact tortricid species in question needs to be confirmed. It remains to be seen if *A. nigricornis* specialises in predating this tortricid or is a more generalist predator of lepidopteran larvae that was taking advantage of a local abundance of this particular tortricid species.

In addition to the nest building and prey stocking behaviour of this wasp, an interesting observation was made with respect to nest parasitism. Instead of an *Ansictrocerus* pupa, one of the brood cells contained the pupa of a parasitoid, which was reared and later identified by Dr G. Broad as the ichneumonid *Ephialtes manifestator* (Plate 2 Fig. 3 and Plate 3). This ichneumon is known to attack solitary hymenoptera, making use of its long ovipositor to access the brood cells of these insects in dead wood and hollow stems. It is likely this ichneumonid also predates the larvae and pupae of other suitably sized insects that depend on dead wood, such as beetles.

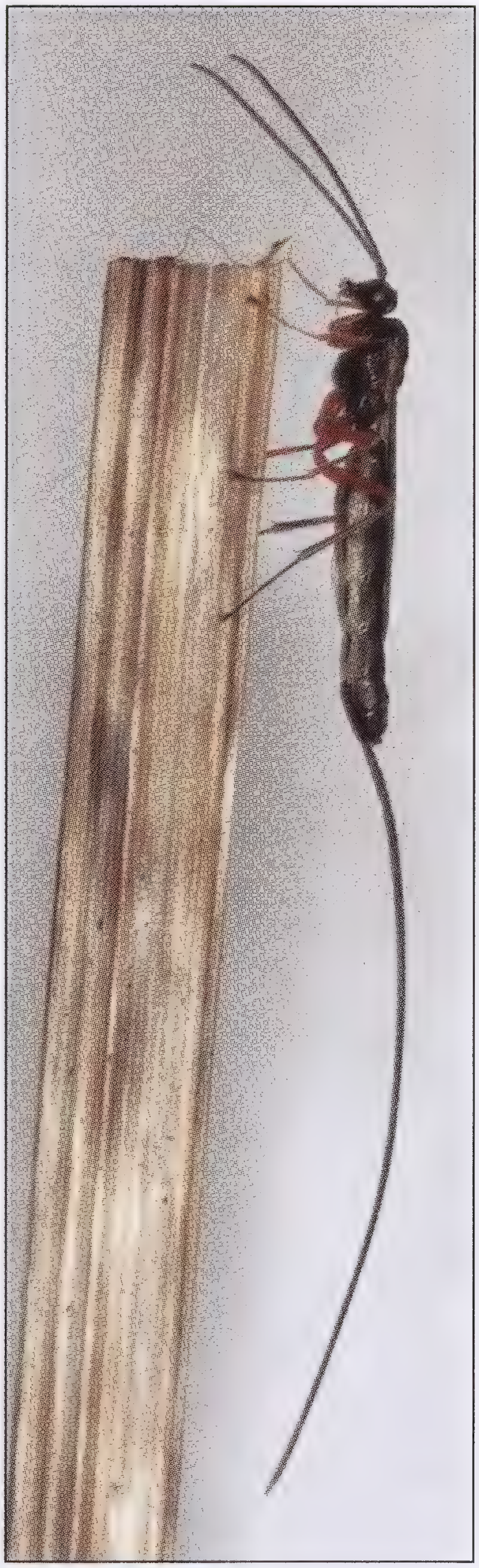

Plate 3. Female *Ephialtes manifestator* (Linnaeus, 1758) reared from the nest of *Ancistrocerus nigricornis.*

These observations provide some interesting insights into the nesting ecology of *A. nigricornis*, but they also present some intriguing questions. This species and lots of other solitary wasps make their nests in hollow stems or beetle tunnels in dead wood, often constructing simple linear nests where the oldest wasp larva is in the deepest part of the nest and the youngest larva is nearest the entrance. These microhabitats provide a sheltered, relatively well-protected environment, but what is the impact of such nesting behaviour on larval development in species that construct nests with a linear arrangement of brood cells?

The *A. nigricornis* pupae in the opened nests were all at a similar stage of development and the emergence of the adults from the nests took place over a short period of time even though there may have several hours or even days between the female laying the first egg and last egg in each nest. The larvae have to synchronise their development otherwise the oldest larva would have to pupate, eclose and expend considerable effort in breaking down the mud partitions of the brood cells containing its younger siblings. The mass of the *A. nigricornis* pupa in each opened nest was not measured, but it certainly seems as though they decrease in size from the depths of the nest towards the entrance. It has been shown in other species of solitary Hymenoptera that the smaller males develop in the outer reaches of the nest because they can complete their development in less time than the larger females? This implies that female solitary wasps that construct linear nests are able to select the sex of their offspring depending on the where the egg is laid within the nest.

The ability to select for the production of male or female offspring is one of defining characteristics of the social hymenoptera, yet it may have evolved in the solitary ancestors of these insects where there was a necessity to synchronise the development of larvae in linear nests.

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Moth populations and bad weather – four speculative observations

There is no doubt in my mind that fifty years ago substantial defoliation of more than just spindle and bird cherry trees was not really unusual; that the regular cleaning of car headlamps and even radiator grills was necessary in summer; that garden *Buddleia* and valerian were always plastered with butterflies and other insects practically the whole summer long; and that an open lavatory window with the light left on made a reliably high-yielding moth trap. These things seemed fairly constant, though I suppose it is possible that my memory has dumped the bad years. If I never again experience the (quite noisy!) steady rain of caterpillar faeces falling from oak woodland canopy in spring, or myriad moths fluttering in the car headlights down every country lane, it is because various long term trends over the past half century (unrelated to global warming *per se*, albeit with similar roots) have progressively made Britain unsuitable for high populations of most species of Lepidoptera. However, there are also shorter-term effects (that is, ones that may not persist) that result simply from runs of unsuitable weather. Whether or not it is right to categorise recent events as aspects of real climate change (and even then, whether or not as a consequence of global warming), such runs are not new and are to be expected simply on a stochastic basis. So optimists can say they may not last – though there is no denying that in the past the British environment has undoubtedly presented much more favourable conditions for moth and other insect populations to recover than at present.

My main interest in Lepidoptera is as hosts for parasitic wasps, so I habitually try to collect caterpillars, leaf mines, etc. in bulk in order to rear these fascinating and little-studied insects. Often, in order to obtain livestock of particular parasitoids for experiments, I have collected the same species of common Lepidoptera caterpillars over several years, sometimes witnessing declines and even local extinctions of species apparently as a result of abnormal runs of unsuitable weather. This has led to a few observations and ideas that might be worth sharing, although unfortunately I had not usually collected the kind of quantitative data that would raise my recollections and comments above being merely anecdotal and speculative.

(1) Effect of cold springs on overwintered adults

In the early part of summer 1980, a few weeks after coming to live in Scotland, I was able to collect larvae of the choreutid moth *Choreutis pariana* (Clerck) in the southern Edinburgh suburbs in sufficient numbers to assess not only its parasitoid complex, but also its distribution across the various rosaceous trees and shrubs present (it was found on six species in four genera, and was used by several species of parasitoid: Shaw, 1984). This day-flying moth overwinters as an adult in both sexes, and depends on spring warmth for the crucial activities of feeding, mating and maturing and laying its eggs. The population had been known in the area for many years (E. C. Pelham-Clinton, pers. comm., 1980), and there are published records of it from as early as 1857 (Logan, 1958) traceable via the Scottish Insect Records Index (cf. Shaw, 1987) maintained at the National Museums of Scotland (NMS), as well as Edinburgh specimens in the NMS collection from 1950 and 1956 (*A. B. MacNicol*), and probably also from various occasions in the first half of the 20th century (*R. F. Logan*, *K. J. Morton*) but these lacking clear data.

Following my survey there was a run of particularly miserable springs in the mid 1980s, which were particularly short of sunshine, and by 1987 (when I next looked) it was not possible to find any evidence of the larvae of *C. pariana* even on its most favoured tree (*Malus*). This situation has persisted to the present (I still search briefly for it every year), and it is clear that a local extinction took place, almost certainly coincident with the consecutive run of adverse springs. Perhaps recolonisation will eventually occur, or perhaps there is no longer a nearby population able to access the Edinburgh suburbs.

The butterfly *Gonepteryx rhamni* (L.) has a life cycle broadly similar to that of *C. pariana*, and during the same run of cold and sunless springs its population in the places that I regularly visit in the Morecambe Bay area of South Cumbria and North Lancashire seemed also to suffer badly, though fortunately without being extinguished.

(2) Effect of cold springs on common early-feeding arboreal caterpillars

For several years, sporadically between 1989 and 2007, I used to beat various hedges in May, mainly concentrating on blackthorn and to a lesser extent hawthorn, in South Cumbria/North Lancashire in order to collect caterpillars of (especially) the geometrids *Operophtera brumata* (L.) and *Theria primaria* (Haworth), both of which supported parasitoids that I needed for a succession of experiments that lasted several years. These moths have flightless, non-feeding females and do not depend on good spring weather for mating and oviposition, as that precedes bud-burst. However, female flightlessness does mean that local movements and hence replenishment of populations tend to be sluggish.

During the years from 1989 to about 1994 there was no difficulty in finding good numbers of these (and other) caterpillars at the right time in May, but from about 1995 onwards (and the phenomenon persists to the present time in that area) the populations in exposed hedges declined so strongly that by 2003 it became commonplace to beat for up to ten minutes or even longer between finds of any kind of caterpillar (no, I wasn't always beating in the same place!). Although some of my sites were field hedges, the general area in which I was collecting was almost devoid of arable crops (and some sites were on Nature Reserves), so there seemed little reason to blame agrochemicals for the decline; and, indeed, populations of later-feeding caterpillars that I was also collecting, such as the geometrid *Lomaspilis marginata* (L.) feeding on *Salix* in the same sites in July and August, seemed relatively unaffected.

It was only when in 2003 I beat along a hedge adjoining the busy A6 road on one side with a bustling factory on the other that I felt I understood the phenomenon. Here the populations of the various early-feeding caterpillars, including *O. brumata* and *T. primaria*, had not suffered the same catastrophic decline, and in fact were as high as I had remembered their being of old, in strong contrast to quieter hedges. A logical explanation seemed to be reduced bird predation compared with elsewhere, as a result of continuous daytime disturbance. There had been a recent and more or less continuous run of cold springs, and the time needed for the caterpillars to become fully grown and leave the birds' foraging arena would have been prolonged by that, such that the consistent predation pressure from (endothermic) birds would have had an enhanced impact on the (exothermic) insect populations in areas in which the birds were not deterred. After a run of such springs, a really major decline was apparent where birds could be fully active. (It is also possible that the hedge between the road and the factory was made significantly warmer, allowing faster larval development and a better escape from predation in that way too).

Indeed, this sort of effect seems likely to be a major factor in the climatic limits of distribution for many insects that need to feed in situations in which they are vulnerable to predation by vertebrates – if it isn't warm enough to feed up quickly, predation levels may simply be too high for a population to persist. In this respect bird predation might also have contributed to the declines mentioned in (1) above.

(3) The effect of wet foliage on particularly small adults?

During the early and mid 1970s I was part of a project based at Manchester University that surveyed the parasitoids of arboreal leaf-mining *Phyllonorycter* (Gracillariidae) species (Askew & Shaw, 1974). For this, moderately large samples of the host mines were collected from various trees at many sites, largely in N. W. England, and it was generally found possible to collect large samples, at least of the commoner species, just about everywhere we tried. Indeed, one sampling programme involved collecting at least 90 *Phyllonorycter* mines from each of oak and birch at the same site twice a week (from mid-June to mid-October), which – even in the sparser first generation – was easily accomplished within a couple of person-hours, and we simply moved our pitches on a few yards on successive occasions, with no real worry that our sampling was heavy enough in relative terms to distort the populations of the insects we were studying (Askew & Shaw, 1979).

It so happened that in 2012 I made a promise to others to try to collect and rapidly preserve several individuals of the exothecine braconid wasp *Colastes braconius* Haliday, which is a regular parasitoid of *Phyllonorycter* (among a wide range of other leaf-mining hosts). From the 1970s I knew that well-grown *Phyllonorycter* species on alder and sycamore were attractive to this parasitoid (Shaw & Askew, 1976), so I attempted to collect more or less fully-formed mines from these trees in Fife (13-15 July). However, even with the help of Keith Bland, I could collect only half a dozen mines on alder and two on sycamore in a total of about three person-hours of searching at several sites. Subsequently in S. Cumbria (4-5 August) I failed to find a single mine on alder at the alder-dominated Borrodale Wood near Tebay in two hours, and found only 14 mines on sycamore at sites around Witherslack in another two hours. (Brief examination of several different trees suggested that other *Phyllonorycter* species were doing no better.)

Even for the usually relatively less numerous first generation, this is pretty abysmal – and, although unfortunately I have no idea of the size of the relevant populations in the autumn of last year, it is hard to believe that the atrocious weather in the first half of the 2012 summer was not playing a significant part. These *Phyllonorycter* species overwinter as pupae, the adults then needing to feed, mate and oviposit in early summer. The abnormally wet and miserable May and June this year wouldn't have made that easy (though perhaps nowhere near as bad as for species overwintering as adults, with additional needs in spring), but it might have been especially hazardous for females of such small and frail moths to negotiate the persistently sodden tree leaves upon which they would easily bedraggle – even though actual oviposition is on the leaf underside (in all but one of the species being sought).

Of the mines collected, only two were parasitised (by eulophid chalcidoids, not by *C. braconius*), this low level (cf. Askew & Shaw, 1979) perhaps suggesting that these tiny parasitoids were also finding it difficult to deal with persistently wet leaves. Interestingly, although avian predation might have been expected to be higher in a cold summer (see above), only two of the very conspicuous mines on sycamore seen at Witherslack had been predated by birds, possibly because their very low density hadn't promoted an effective search image.

(4) Horses for courses . . .

A brighter note in conclusion is that at Angle Park, Fife, in mid July 2012 Keith Bland and I found very large numbers of two nymphuline pyralids, *Elophila nymphaeata* (L.) and *Nymphula stagnata* (Donovan) flying around a shallow lochan with good growths of *Potomogeton* and *Sparganium*. So perhaps not all moths were suffering!

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Was 2012 such a bad year for moths?

Anecdotally, 2012 seemed to be a terrible year for moths, but was that actually the case? When I examined my data for the last five years the picture seemed somewhat different. I have been trapping every night of the year (apart from holidays and odd electrical issues) since 2002 using a Skinner type trap mounted on a solid base with a 125 Watt MV bulb in front of a vertical sheet hung on a greenhouse, in a medium-sized suburban garden in Bengeo, Hertford (VC 20; O.S. grid reference TL 324137). An analysis of my efforts is presented in Table 1.

Year	Total Moth Numbers	Nights Trapped	Moths per night	Nights with 100+ moths	Species Trapped	New species per year
2008	5285	277	19	13	333	4
2009	7487	274	27	18	350	12
2010	9189	274	34	23	395	26
2011	7918	288	27	14	360	16
2012	7130	287	25	15	372	10

Table 1. Numerical data for Bengeo trap, January to October, 2008 to 2012.

In 2012, one species above all had an outstanding year. This was the Common Footman *Eilema lurideola* (Zincken) whose numbers doubled from 2011 and exceeded any previous annual total back to 2002 (when I was catching something over twice as many moths per year as in the period under consideration).

Examining only those species where a minimum of 20 individuals was caught during 2012, the following species show an increase in individuals trapped of at least a 100% in 2012 compared to 2011:

Hepialus lupulinus (L.) Common Swift
Cameraria ohridella (Deschka & Dimic) Horse Chestnut Leaf-miner
Pandemis corylana (Fabr.) Chequered Fruit-tree Tortrix
Tortricodes alternella (D. & S.)
Orthosia cruda (D. & S.) Small Quaker
Lithophane leautieri (Boursin) Blair's Shoulder-knot
Apamea monoglypha (Hufn.) Dark Arches
Autographa gamma (L.) Silver Y

Again considering only those species where over 20 individuals were caught during 2012, the following species showed a 50% or greater decrease in individuals trapped in 2012 compared to 2011:

Lozotaenia forsterana (Fabr.)
Celypha striana (D. & S.)
Agriphila straminella (D. & S.)
Agriphila inquinatella (D. & S.)
Eudonia angustea (Curtis)
Endotricha flammealis (D. & S.)
Eupithecia abbreviata (Stephens) Brindled Pug
Eupithecia vulgata (Haw.) Common Pug
Gymnoscelis rufifasciata (Haw.) Double-striped Pug
Agrotis exclamationis (L.) Heart & Dart
Agrotis puta (Hb.) Shuttle-shaped Dart
Thalpophila matura (Hufn.) Straw Underwing
Hoplodrina alsines (Brahm) The Uncertain
Hoplodrina blanda (D. & S.) The Rustic
Hoplodrina ambigua (D. & S.) Vine's Rustic

2012 was certainly a better year for immigrant species, with records of Vestal *Rhodometra sacraria* (L.) and Convolvulus Hawk-moth *Agrius convolvuli* (L.) compared with no records of the rarer migrants and precious few of the commoner ones in 2011. I also noted, for the first time, breeding records for Small Ranunculus *Hecatera dysodea* (D. & S.) and Toadflax Brocade *Calophasia lunula* (Hufn.) in the garden.

The data above suggest that 2012 has not been especially remarkable when compared to the previous four years. However, year to year comparisons can be very misleading. For instance, 2011 was a very poor year for *Apamea monoglypha* so a large increase in 2012 was not necessarily unexpected. Overall trends detected throughout longer periods of time are more relevant. The moth numbers recorded here from 2008 to 2012 appear to be the bottom of a cliff compared to the period from 2002 to 2007.

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Comparison of Lepidoptera recorded at light in 2011 and 2012, at Spurn and Kilnsea, East Yorkshire (VC 61)

The 2012 season started quite encouragingly during March, with the warm (for the time of year) dry weather producing correspondingly normal numbers and species at Spurn. However, with the onset of the very wet and generally cool weather in April, which continued through May and June, things went downhill drastically. In fact it turned out to be the worst April to June period for Lepidoptera since I first started using moth traps back in 1969. During this period, the number of species of moth caught at light was down by 65% and the number of individuals was down by 80% compared with the corresponding period in 2011. Table 1 gives the number of individuals and the number of species caught in three MV traps (Two at Spurn and one at Kilnsea) run nightly during March – June 2011 and 2012.

Month	Year	Species data				Numerical data			
		“macros”	Change	“micro”	Change	“micro”	Change	“micro”	Change
March	2011	14	–	5	–	386	–	10	–
	2012	14	0	6	+ 13%	396	+ 2%	12	+ 20%
April	2011	37	–	13	–	2181	–	29	–
	2012	11	-70%	3	-77%	576	-74%	7	-76%
May	2011	107	–	55	–	4471	–	444	–
	2012	60	-44%	24	-51%	942	-79%	269	-39%
June	2011	152	–	112	–	9250	–	5739	–
	2012	100	-34%	46	-90%	2554	-33%	631	-89%

Table 1. Number of individuals and species caught at Spurn and Kilnsea.

The situation improved greatly from mid-July through August, but deteriorated again during the rest of the season. The overall figures for the year showed a reduction of 12% for the number of species recorded compared with 2011, but a massive 45% reduction in the number of individuals caught.

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The snakefly *Subilla confinis* (Stephens) (Raphidioptera, Raphidiidae) new to Berkshire

On 19 May 2011, I was sweeping low vegetation under the shade of some beech trees, *Fagus* spp. (Fagaceae), at The Holies (National Trust), Streatley, Berkshire (O. S. grid reference SU 590802). This seemingly unpromising activity had yielded a specimen of the rare squashbug *Gonocerus acuteangulatus* (Goeze) (Hem., Coreidae) on 21 May in the previous year, and I was hoping to repeat the feat. I failed in this endeavour, but did take the alternate prize of a snakefly (Raphidioptera, Raphidiidae), the first I had found since my youth, whilst a student in Leeds in the 1980s. Using Plant (1997. *A key to the adults of British lacewings and their allies (Neuroptera, Megaloptera, Raphidioptera and Mecoptera)*, Field Studies Council), I identified the insect as

Subilla confinis (Stephens), a female and by referring to Plant (1994. *Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidoptera and Mecoptera) of Britain and Ireland*, Biological Records Centre) and Colin Plant himself, I established that this was an uncommon species that had not previously been recorded in Berkshire (Watsonian Vice-County 22).

I returned to the same location on 18 May 2012, in the hope of completing my hat-trick of discoveries and, predictably, found nothing. However, over the coming weeks I took another three specimens of snakefly in other locations, in the adjacent county of Oxfordshire. The first was a male *Xanthostigma xanthostigma* (Schummel) (Raphidiidae), a less uncommon species, taken on 23 May sweeping the edge of a ride at Burnt Platt Wood, Stoke Row (SU689830). Next, was another female *S. confinis*, found beating White Willow, *Salix alba* L. (Salicaceae), in New Marston Meadows, Oxford (SP518076) on 6 June. This was followed by another *X. xanthostigma*, this time a female, on 17 June at Bradwell Grove airfield, near Carterton (SP248065), taken beating wild rose, *Rosa* spp. (Rosaceae).

Both of these species of snakefly are already known from Watsonian Oxfordshire (VC23), but to encounter so many individuals in such a short space of time, through general sweeping and beating, is remarkable in my experience. It has been a miserable time for many insect species in recent years, with 2012 being the seventh cool, wet summer in a row, and one of the wettest on record. It may be coincidence, but I wonder if snakeflies prefer these more 'traditional' British summers, in comparison to the hotter, drier conditions that ran through the 1990s up to 2006.

I am very grateful to Colin Plant for confirming my identifications and the status of my Berkshire record.

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CALL FOR PAPERS

The Editor invites contributions on all aspects British and European Lepidoptera that may be of interest to a predominantly British readership. From this current issue onwards, this journal is no longer limited in terms of the amount of colour plates that can be included and with this in mind we particularly invite contributions in two subject areas – identification problems and variation within the adults of British moths. Potential authors are invited to contact the Editor in advance (*cpauk1@ntlworld.com*) to avoid duplication. Acceptance of such articles will, as with all papers, be subject to external peer-review.

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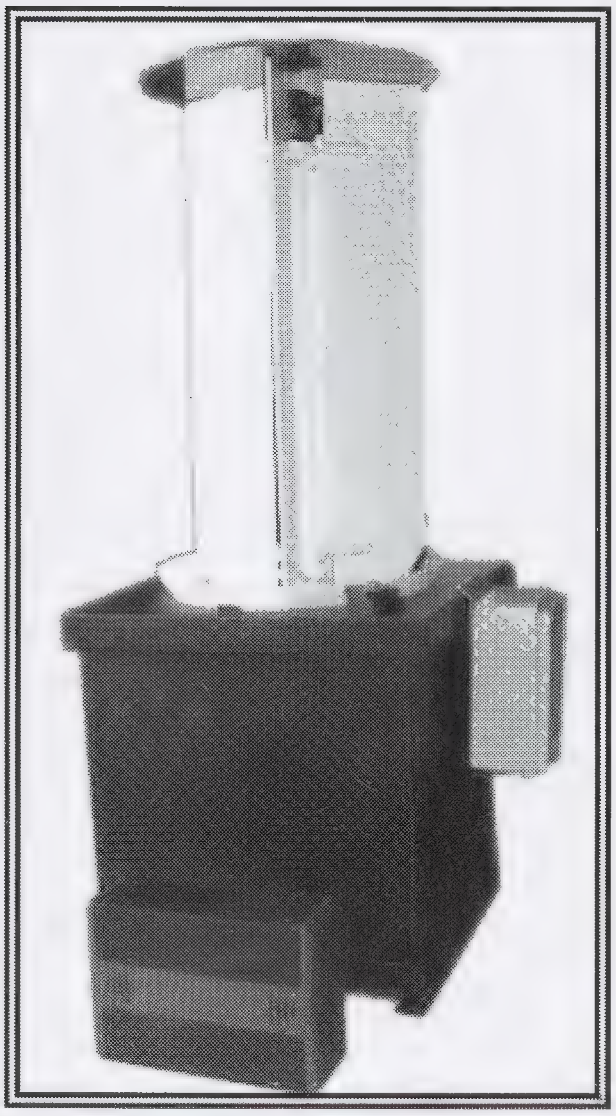

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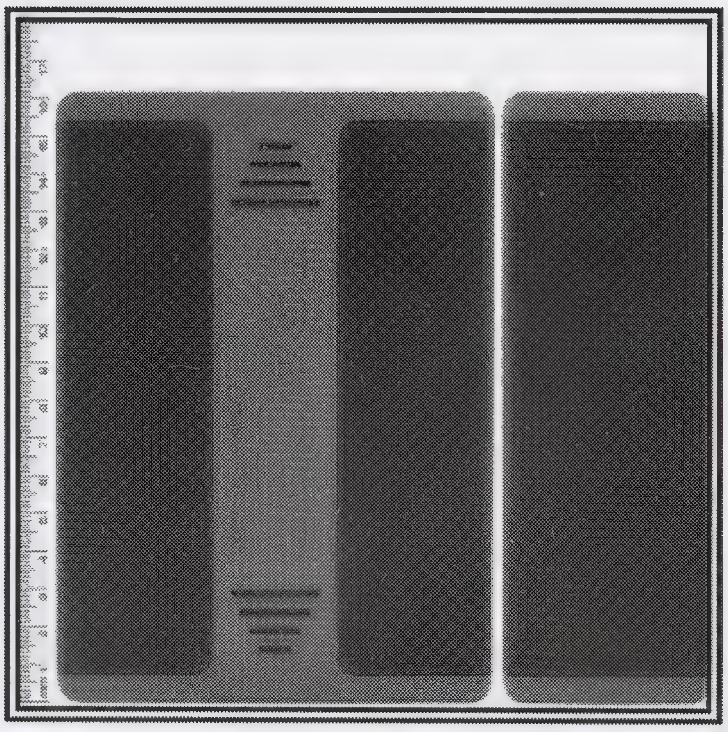

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Printed in England by
Cravitz Printing Company Limited, 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277 224610

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and Journal of Variation

lume 125 • Part 2 March/April 2013

Edited by C. W. Plant

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A publication of The Amateur Entomologists' Society

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

World List abbreviation: *Entomologist's Rec. J. Var.*

http://www.entrecord.com

Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

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The Entomologist's record is now printed in full colour, enabling us to accept a wider range of illustrative and interpretative material. This development has been made possible by a generous bequest by the late Andy Callow.

Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

REARING SOMBRE BROCADE *DRYOBOTODES TENEBROSA* (ESPER) (LEP.: NOCTUIDAE)

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Abstract

Sombre Brocade *Dryobotodes tenebrosa* (Esper) was reared from eggs laid by a wild female collected in Dorset. One batch was fed on *Quercus ilex* and the other on *Q. robur*, with similar success. The egg, larva and pupa are described.

Keywords: *Dryobotodes tenebrosa*, captive rearing, egg, larva, pupa.

Introduction

Sombre Brocade *Dryobotodes tenebrosa* was first recorded in Britain when a female was light-trapped at Durlston, Dorset, on 12 October 2008 (Davey, 2009). More were caught there in subsequent years, also at other sites in Dorset and elsewhere along the coast of southern England (Parsons, 2012). It is likely that the species had already established itself when first found. In Europe, the moth has a classic Atlantico-Mediterranean distribution, similar to that of other recent colonists such as Cypress Carpet *Thera cupressata* (Geyer), Blair's Shoulder-knot *Lithophane leautieri* (Boisduval) and Oak Rustic *Dryobota labecula* (Esper), which likewise have no previous history as immigrants.

Captive rearing

Eggs were obtained from Davey's original female and an account of their successful rearing on Holm Oak *Quercus ilex* is given by Cook (2010). This tree occurs commonly at the Dorset sites and is assumed to be the larval foodplant there, though wild larvae have not yet been reported. In the Mediterranean, *Q. ilex* and the Kermes Oak *Q. coccifera* (also an evergreen) are the main oaks used (Ronkay *et al.* 2001). Thus there was a potential problem when MP sent RL half of the 30 eggs laid by a female that he captured on 3 October 2011 at Abbotsbury Gardens in Dorset. *Q. ilex* is scarce in north-east Scotland, with only one record for Banffshire – and that is dated 1954 (Ian Green, Banffshire botanical recorder, pers. comm.). Searches by RL in parks, coastal towns and amenity woodland over the winter duly proved fruitless. So in early spring, several local garden centres were contacted. None had stocks of *Q. ilex*, nor could they obtain it from their suppliers until autumn. RL's chances of a successful rearing seemed slim.

However, the European website at *www.leps.it* gives the foodplant of Sombre Brocade merely as *Quercus*, implying that a wider range of species may be used. Furthermore, the German website *www.lepiforum.de* illustrates a captive larva feeding on deciduous oak. There was no alternative but to try this instead.

In Banffshire, RL's eggs had been overwintered in an outbuilding, but March 2012 was exceptionally warm. The eggs were therefore placed in a refrigerator to dissuade premature hatching. They were removed on 20 April, when the first buds were beginning to break on a particularly early Pedunculate Oak *Q. robur* that has proved invaluable for rearing larvae over the years, coming into leaf a good three weeks before any other in the area. Even when indoors the first egg did not hatch until 30 April, suggesting that they overwinter undeveloped.

The hatchlings were tiny for a noctuid of that size. They were given sprigs with opening buds from the aforementioned oak, mixed with less well-developed buds of *Q. ilex* received by post from Reg Fry in Essex. Initially the hatchlings crawled actively around the container, making no attempt to begin feeding. They were repeatedly replaced on the buds, but continued to wander. Most eventually settled down after a day or two, though shrivelled corpses showed that three had failed to become established. Cook (*op. cit.*) observed similar behaviour, suggesting that a wandering phase on hatching is obligatory.

A careful examination on 8 May showed no signs of feeding damage to the *Q. ilex* buds, but small grub-like larvae were found deep inside the *Q. robur* buds. There were no indications that they had entered the buds by boring, as do small larvae of Merveille du Jour *Dichonia aprilina* for example. Instead, they appeared to have squeezed their way inside between the unfurling leaves.

Once the larvae had passed their first instar they fed externally on the young *Q. robur* leaves. Growth was rapid; by 19 May one had already moulted to its final instar. A period of exceptionally hot weather in late May led to digestive problems when the tender oak leaves wilted rapidly, causing a couple of fatalities. Otherwise the larvae proved easy and quick to rear once past the initial difficulty of getting them to start feeding. All had gone down into soil by 2 June, with the larval stage lasting barely a month.

In Dorset, MP likewise kept the eggs in a refrigerator to avoid premature hatching, then fed his larvae solely on the breaking buds and young leaves of *Q. ilex*, readily available there. The mortality rate of the first instar larvae was perhaps slightly higher, and the subsequent growth rate certainly slower, when compared with the *Q. robur* batch in Banffshire.

When full-grown, the larvae reared by RL made moderately strong cocoons of silk and soil about 4cm below the surface. As observed by Cook (*op. cit.*) there was no pre-pupal diapause, unlike in most autumn moths. Surprisingly, the adults emerged from 9 – 25 August, rather earlier than expected. Those reared by MP emerged a week or two later. In the wild they could easily have been confused with various other 'brocades' and similar noctuids but for their autumn flight time. However, the contrastingly paler thorax, particularly the tegulae, is a useful distinguishing feature. RL's reared moths were moderately variable, with some individuals more uniformly dark brown than previously published photographs. Even freshly emerged examples had no trace of green. This and various early stage differences suggest that *tenebrosa* does not quite belong with the rest of the *Dryobotodes* species; indeed, Ronkay *et al.* (2001) place it in the subgenus *Dichonioxa* Berio, 1980.

From the behaviour of the adults, it is likely that they rest by day on trunks and branches. When placed on wood or bark they sought out suitable hollows and crevices, then settled down in full view. Presumably they could be found by daytime searching by anyone prepared to make the effort at known sites.

The readiness with which the larvae accepted and thrived on deciduous oak in captivity suggests this is a potential British foodplant in the wild. If so, Sombre Brocade may be well-placed to spread more widely in the coming years.

Descriptions of the early stages

The egg (Plate 1, Fig 1).

Spheroid, flattened at top and base, maximum diameter ca. 0.6mm, thus relatively small for a moth of this size. Extravagantly ornate and deeply sculpted, with about 17 very prominent, wavy, vertical ribs that are linked by almost equally prominent horizontal or sloping cross struts, apparently in a random manner. The effect resembles crochetwork. Reddish brown, ribs paler; becoming purplish grey just before hatching.

The larva (Plate 1, Figs. 2-6)

First instar: ca. 2mm long at hatching, whitish, head black, thoracic and anal plates grey, thoracic legs grey. Becoming plump and grub-like, reaching a length of 6mm.

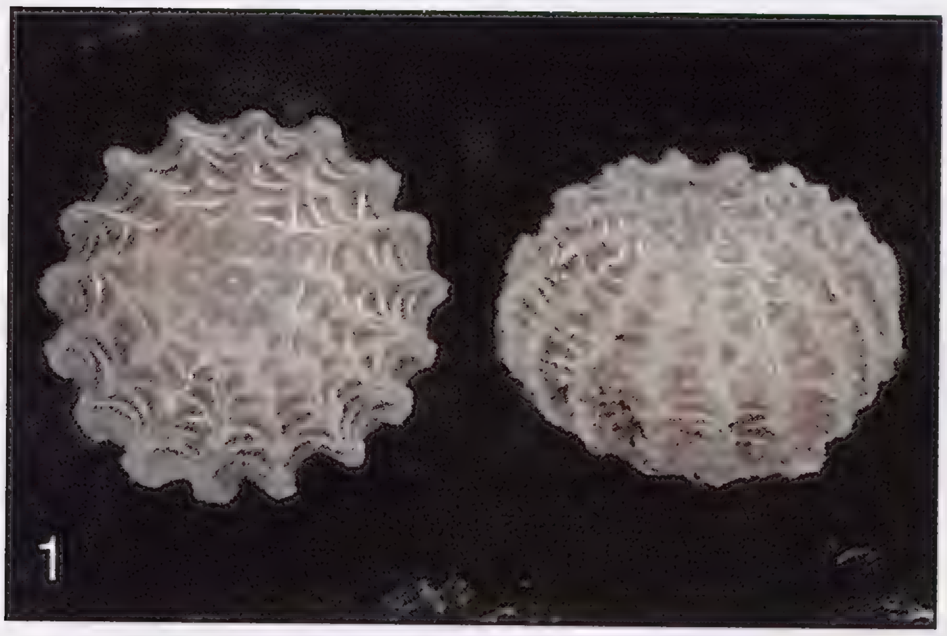
Second instar: pale green, slightly darker dorsally. Narrow white dorsal, subdorsal and spiracular lines. Thoracic and anal plate concolorous. Head pale ochreous brown.

Third and fourth instar: more variable, some being heavily freckled dark grey-green dorsally, others with less freckling and therefore appearing paler. The narrow white dorsal and subdorsal lines are now more broken; trapezoidals white, spiracular line white but ill-defined. Spiracles white ringed with black. Head pale ochreous brown, unmarked except for darker shading on the frons.

Final instar: fully grown about 35mm long, very variable, at one extreme strongly marked and almost black dorsally when newly moulted, at the other so faintly freckled as to appear dull greyish green.

In the darker forms, a diamond pattern runs dorsally along the abdominal segments, linked by a narrow and broken white dorsal line. The centre of the diamonds is variably paler, sometimes almost whitish. The trapezoidals are white, but the paler subdorsal line is faint or barely visible. The pale spiracular line is indistinct, but edged with thin black dashes along its upper edge. The tubercle immediately behind each spiracle is now more prominent than in the earlier instars, giving the larva a knobbly appearance. On the slightly humped eighth abdominal segment, two diagonal black wedges are linked by a narrow black transverse bar edged whitish. Ventrally, pale brown. Head pale brown with heavy dark brown marbling.

In the pale forms, only a faint trace of the dorsal diamond pattern can be detected, making the white trapezoidals and the fine broken white dorsal and subdorsal lines more visible. The black wedges and transverse bar on the tail hump are conspicuous,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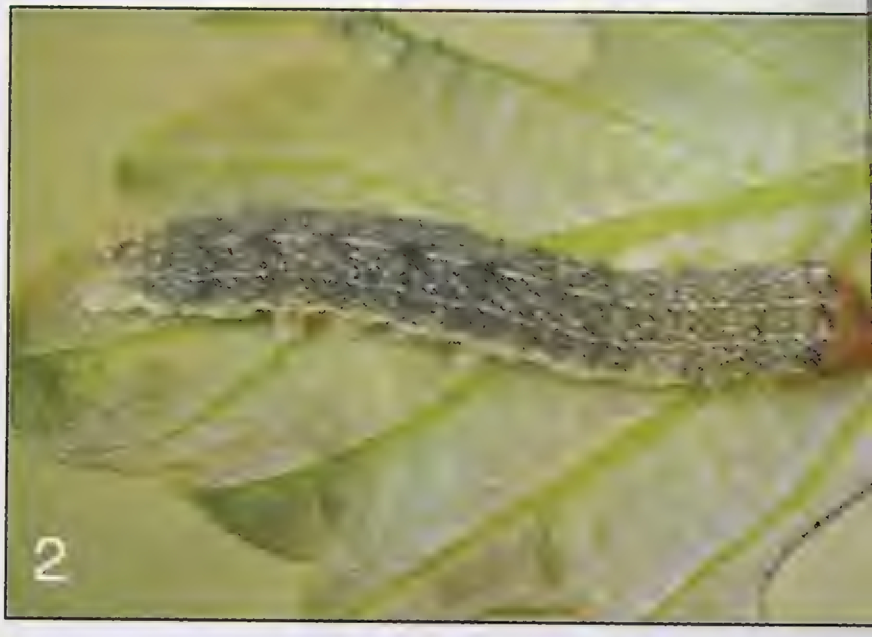
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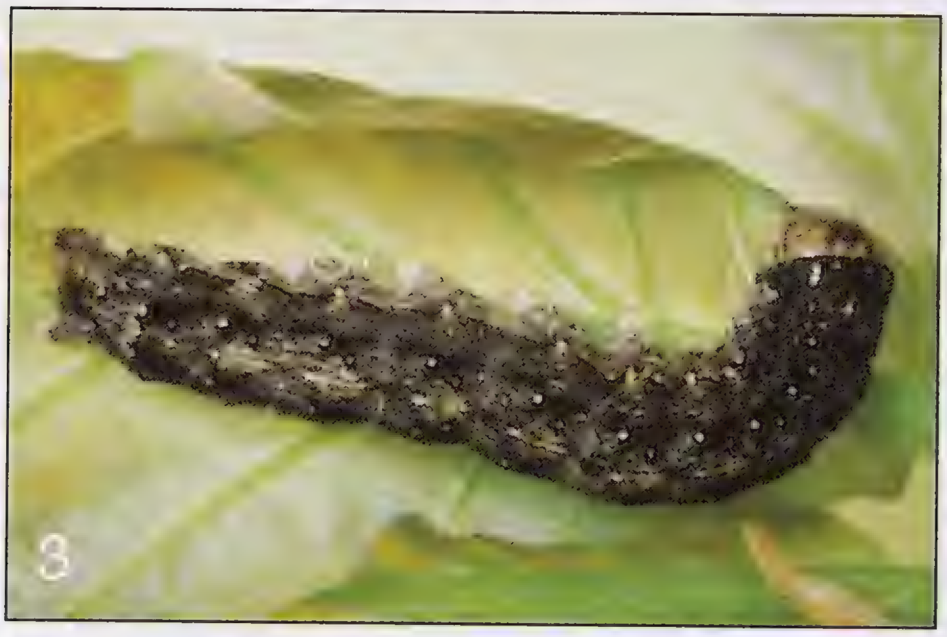
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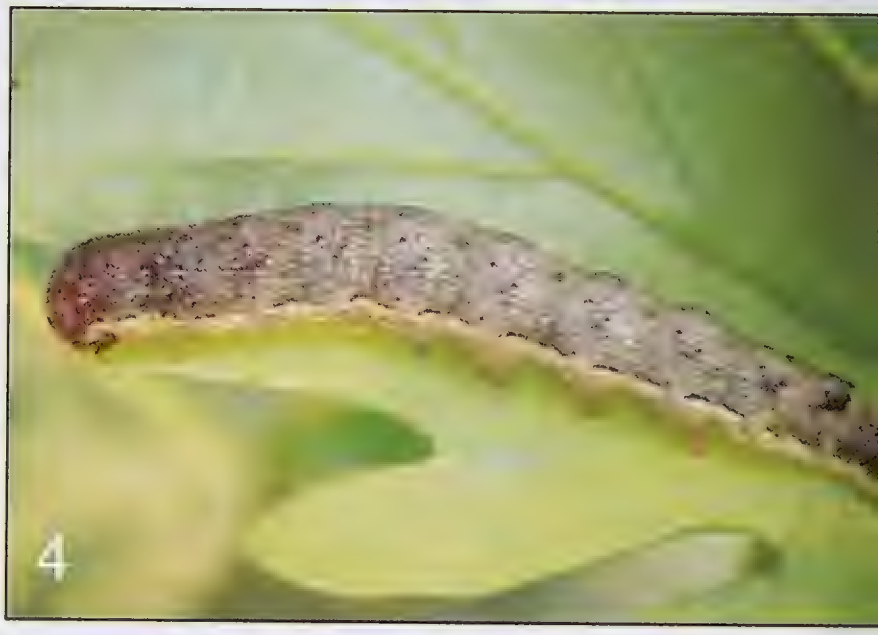
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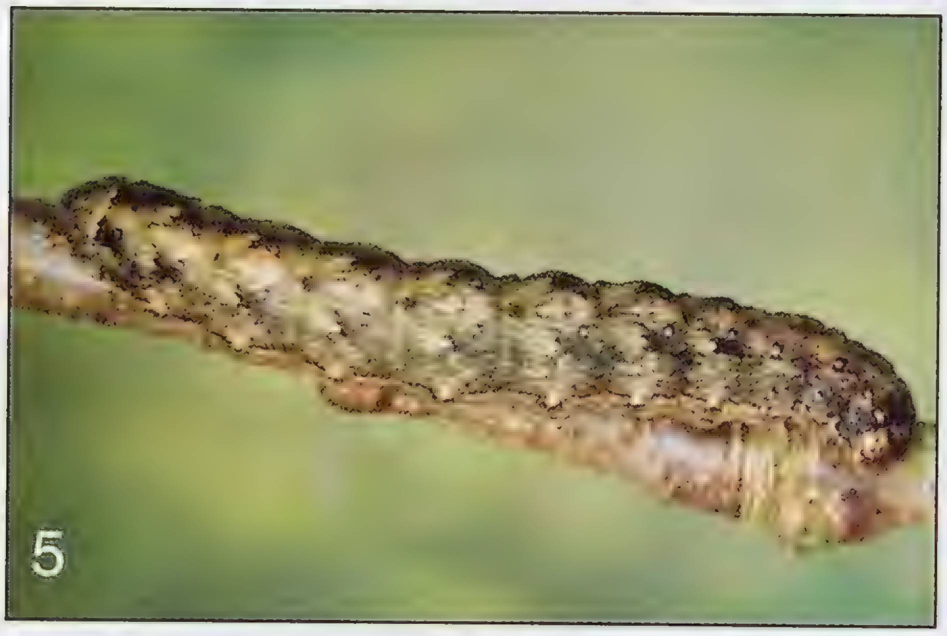
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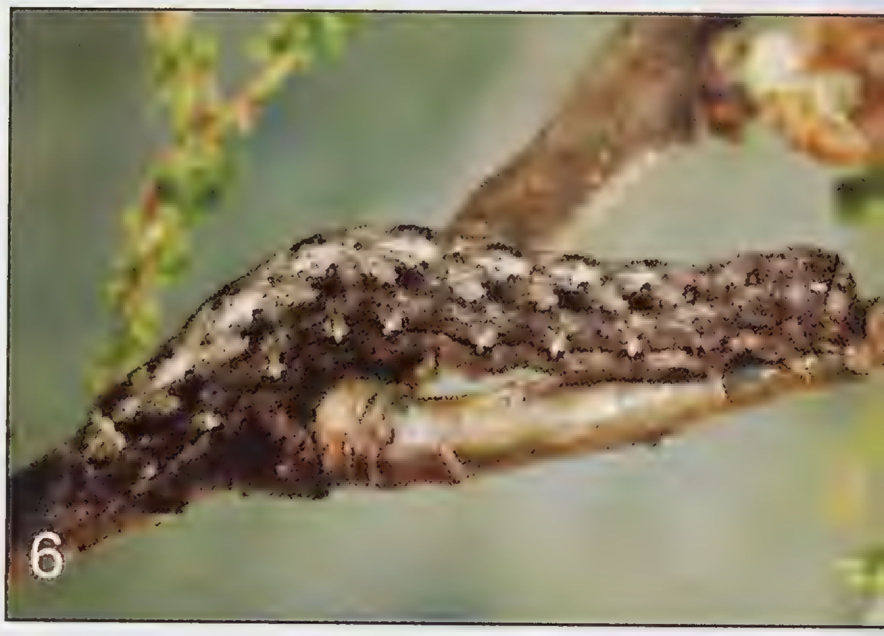
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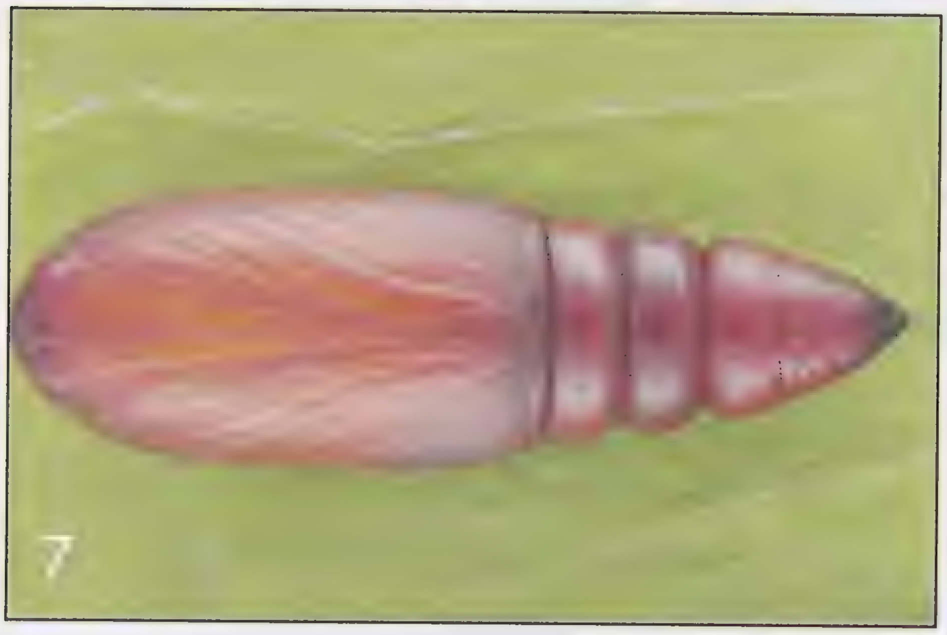
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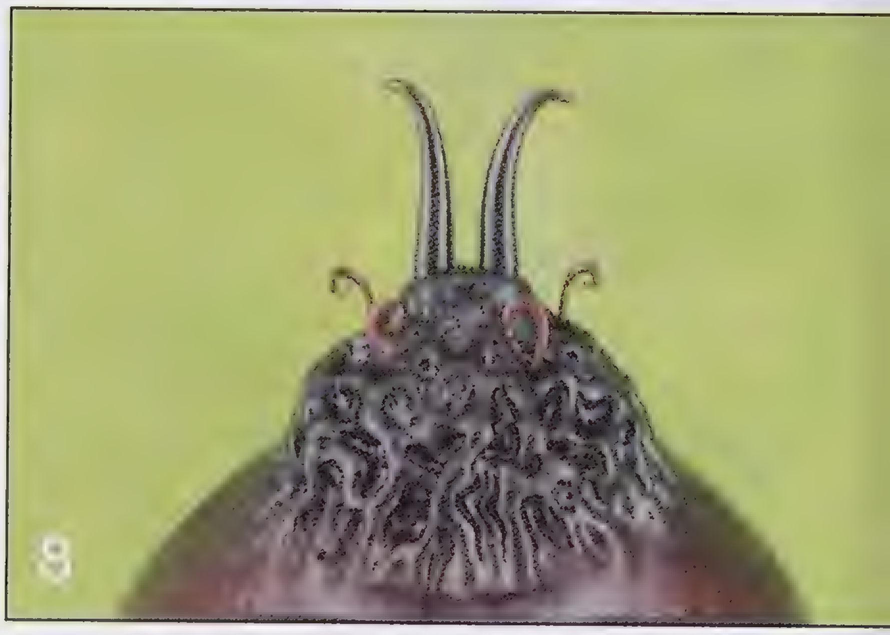
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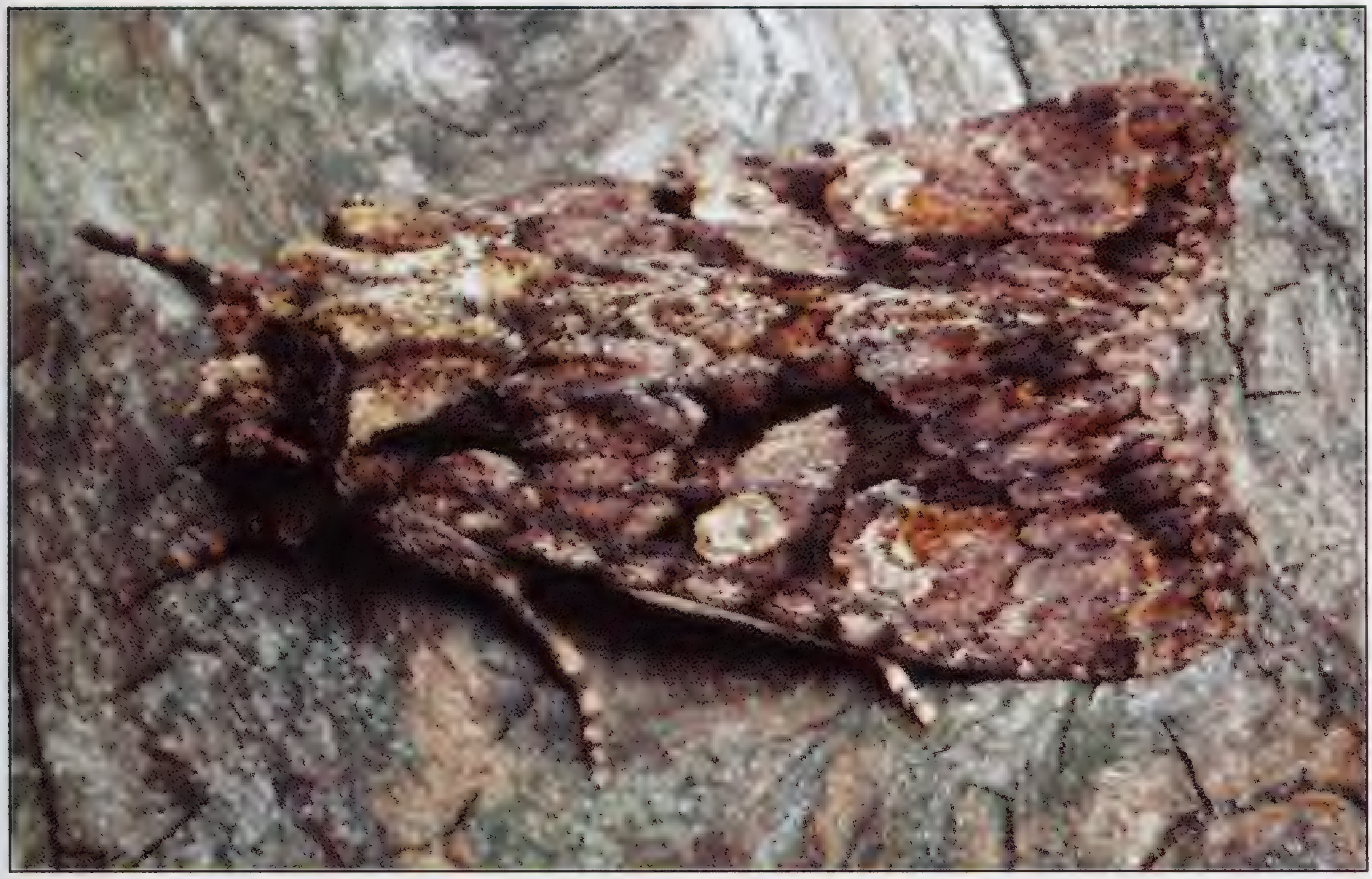

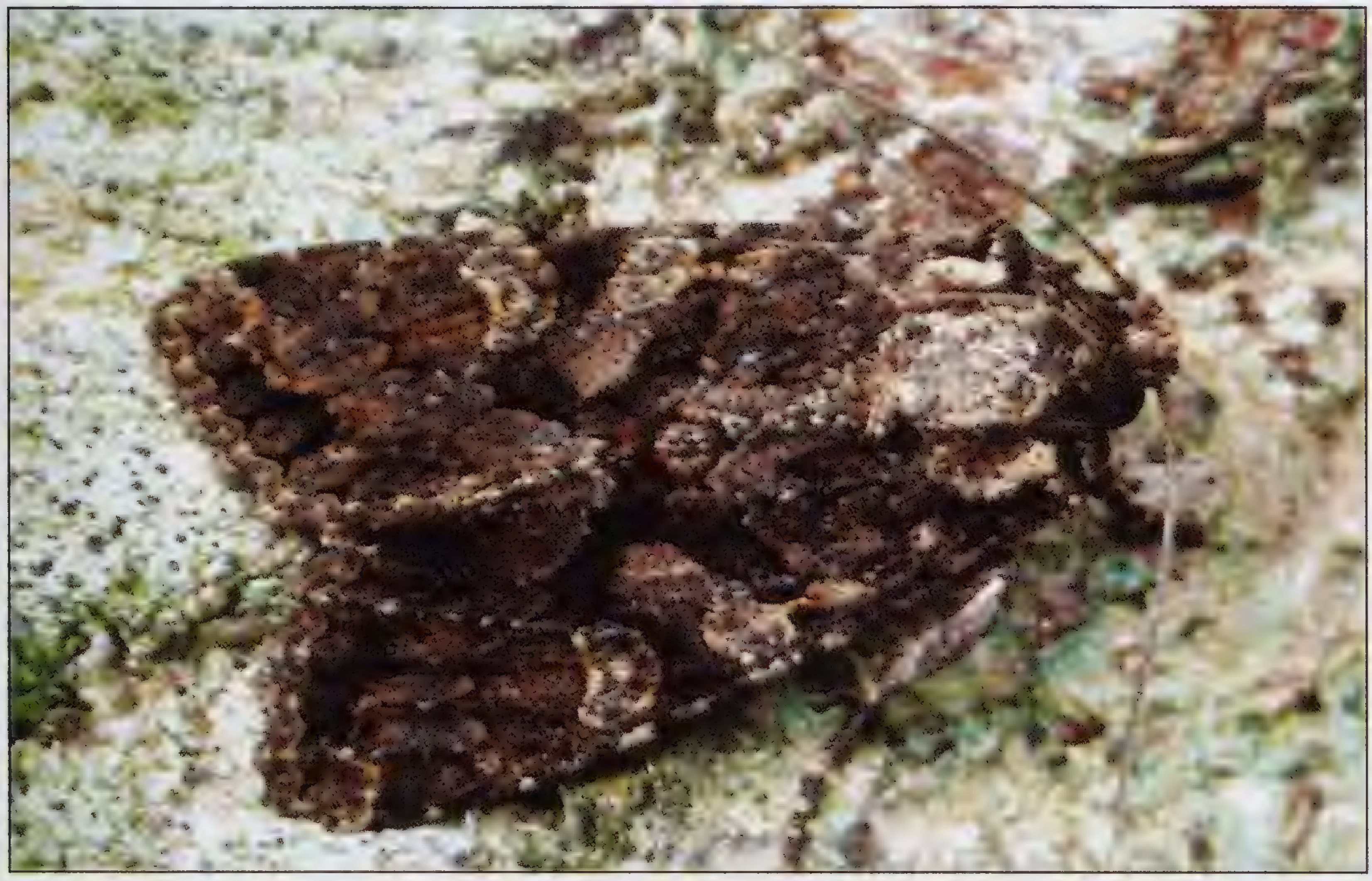

Plate 2 (above). *Dryobotodes tenebrosa* (Esper). Adults reared from the batch fed on *Quercus robur.*

Plate 1 (left). *Dryobotodes tenebrosa* (Esper). Early stages, ex female, Abbotsbury Gardens, Dorset, 3.x.2011. 1. Eggs; 2. Penultimate instar larva; 3-6. Final instar larvae; 7. Pupa; 8. Pupal cremaster. All the early stages illustrated originate from the batch fed on *Quercus robur.* Photo credits: Reg Fry (eggs) and Roy Leverston (remainder).

as is the thin black edging above the pale spiracular line and the blackish anterior edge to the thoracic plate. Head pale brown with faintly darker marbling.

The darker larvae superficially resemble those of Merveille du Jour *Dichonia aprilina* (L.) and some final instar forms of Twin-spotted Quaker *Orthosia munda* (D.& S.).

The pupa (Plate 1, Figs. 7-8)
About 18mm long, fairly slender, red-brown, finely and evenly punctate, only moderately glossy (Fig. 7). Cremaster (Fig. 8) evenly rounded, heavily rugose, with two long apical spines at first parallel then curving outwards near the tips, plus four small but strong hooks.

Acknowledgements

MP would like to thank staff at Abbotsbury Gardens for permission to record moths at the site. We are grateful to Reg Fry for the use of his superb photographs of the eggs. Further images from this rearing may be seen on *www.ukleps.org*

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Phaulernis dentella (Zeller) (Lep.: Epermeniidae) – new to Northamptonshire

On 5 June 2012, a small, dark moth was beaten from a mixed hawthorn *Crataegus* sp. and Blackthorn *Prunus spinosa* hedge along a green lane just outside the village of Islip near to my home in East Northamptonshire, (VC 32; O. S. grid reference SP 957784). The species was unfamiliar to me and hence retained for future examination. This activity was not performed until the early part of November, whilst sorting through my backlog of micros for genitalia dissection.

I duly sent an image of the set specimen to David Manning, the Bedfordshire and Northamptonshire County Micro Moth Recorder, who subsequently confirmed this as being *Phaulernis dentella* (Zeller, 1839) and that it was new to the Vice County of Northamptonshire. David also mentioned that there were only three records for this species in the adjacent Vice County of Bedfordshire (VC 30). Both Emmet (1996. *The Moths and Butterflies of Great Britain and Ireland*, Vol 3. Harley Books) and the more recent Sterling & Parsons (2012. *Field Guide to the Micro Moths of Great Britain and Ireland.* British Wildlife Publishing), indicate a distinct and incomplete south-easterly distribution, with this record thus being towards the northerly edge of its known range in the UK.

My thanks go to David Manning for confirming the identification and for his comments on the distribution of this species in both Bedfordshire and Northamptonshire.

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Phyllonorycter ulmifoliella **(Hübner) (Lep.: Gracillariidae), reared from a mine on the upperside of *Carpinus betulus***

Phyllonorycter ulmifoliella is a fairly common species whose larvae mine the undersides of leaves of birch *Betula* spp. On 28 October 2010, I found a mine on the upperside of Hornbeam *Carpinus betulus* at Knightshayes Plantation, Devon (VC 4). I assumed that it was *Phyllonorycter esperella* (Goeze), but kept the mine as this would have been the first record of that species from that vice-county. Much to my surprise, it proved to be *P. ulmifoliella* when the moth emerged on 11 March the following year.

I am not aware of any other record of this species from birch and so this seems to be not only an example of xenophagy, namely a species found exceptionally on a plant not its normal host, but also of the wrong surface being used. It is of interest that the late Maitland Emmet (1973. *Entomologist's Rec. J. Var.* **85**: 134), once reared *Stigmella floslactella* (Haworth) from a larva mining a birch leaf; the species normally feeds on Hornbeam or Hazel *Corylus avellana*, both of which, like the birches, are in the Betulaceae.

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Cydia illutana **(H.–S.) (Lep.: Tortricidae): New to Norfolk**

Bunker's Hill, between Anmer and Houghton in Norfolk, is a place often visited by DA during lunch breaks. It is a mixed woodland with a variety of different tree species, a public footpath running through it and plenty of shelter on a windy day. On 30 June 2012, the opportunity presented for an overnight session there. *Olindia schumacherana* (Fabr.) was the first moth, netted at dusk before an MV bulb was set up, suspended from a tripod over a white sheet. This attracted a number of interesting moths including Red-necked Footman *Atolmis rubricollis* (L.) and several more common species. However, a blackish *Cydia* sp. was not immediately recognised (Plate 1) and so was retained, in the hope that further study would resolve its identity. It was narrowed down to three options, but none seemed a perfect match. The absence of a strong white dorsal blotch was confusing for any of the contenders and the closest match was unrecorded in Norfolk and it was supposed that it would probably turn out to be one of the others.

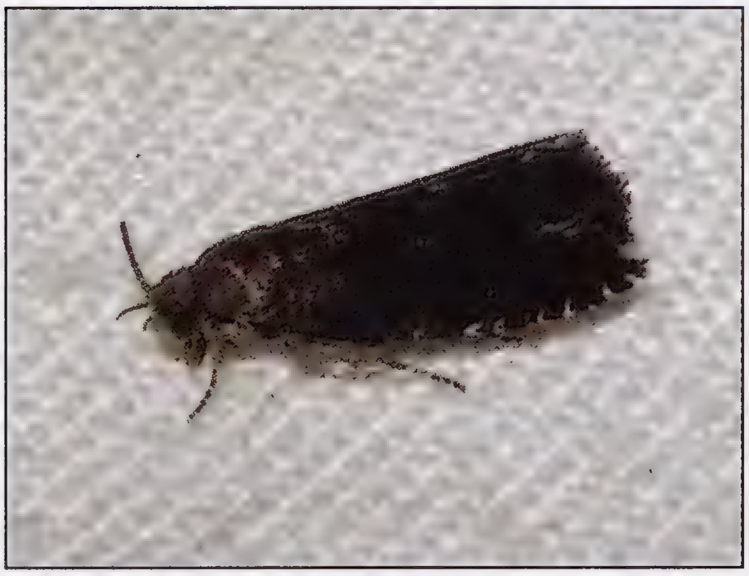

Plate 1. *Cydia illutana* (H.–S.), Bunker's Hill, Norfolk, 30.vi.2012, leg. D. Appleton.

The moth was passed to JC, along with a selection of other moths that DA had collected from elsewhere. It transpired, subsequently, that these included the second *Coleophora therinella* Tengst. for Norfolk, which was found in DA's bedroom on 6 July 2012. JC's first impression of the *Cydia* was that it resembled *C. conicolana* (Heylaerts) or *C. cosmorphorana* (Tr.), as it only showed a faint hint of a narrow, silvery fascia and lacked a well developed medio-dorsal blotch. However, because the moth was photographed on a white sheet using "flash" these features were distorted and it is not surprising that on dissection it was shown to be a different species – a male *C. illutana*. The genitalia of this specimen are figured in Plate 2.

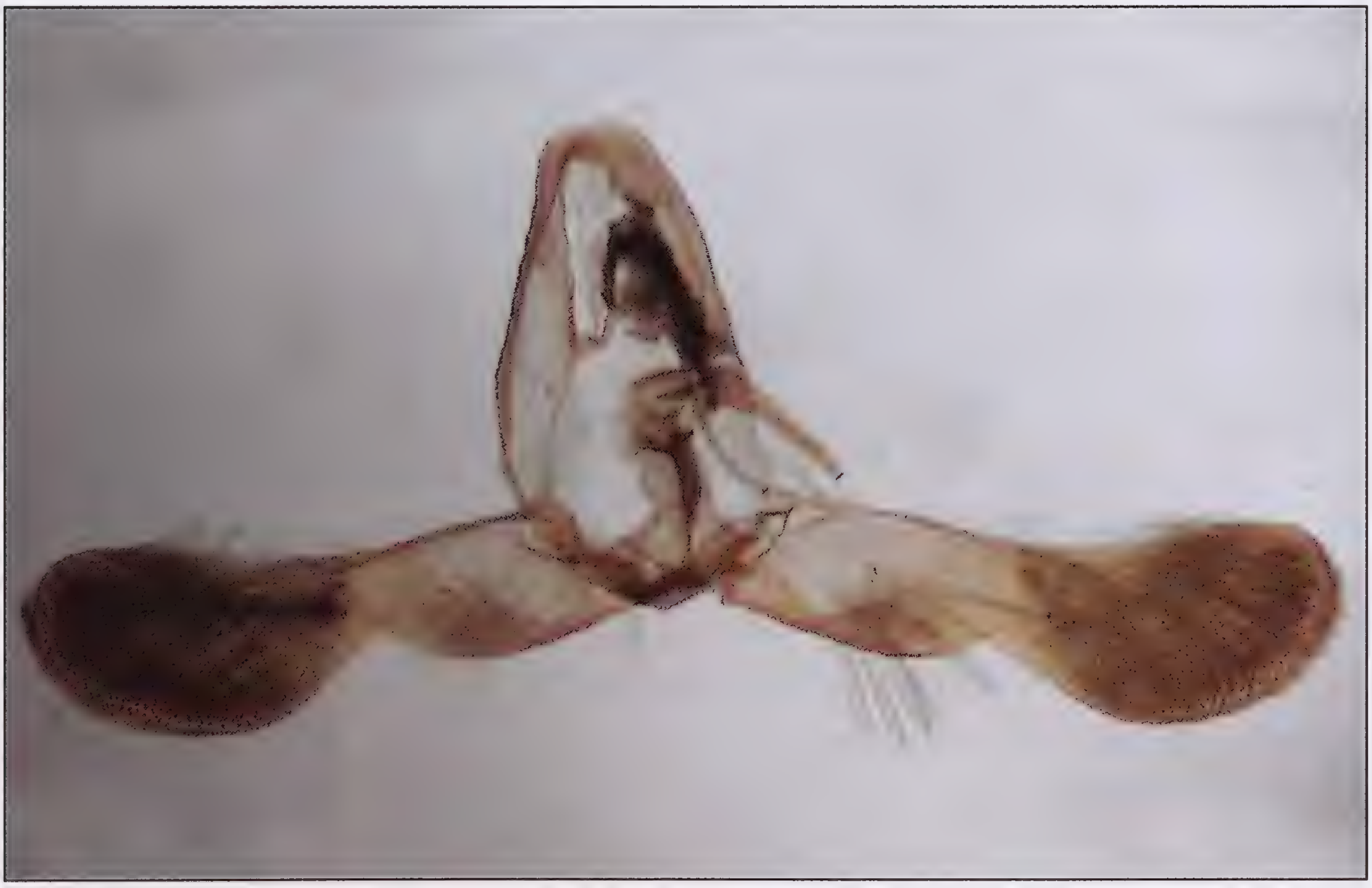

Plate 2. *Cydia illutana* (H.–S.), Bunker's Hill, Norfolk, 30.vi.2012. Male genitalia.

Along with other British pine-feeding *Cydia* such as *C. coniferana* (Ratzeburgh, 1840) and *C. indivisa* (Danilevsky, 1963), *C. illutana* normally, but not always, shows a weak but fairly well-defined, silvery-whitish medio-dorsal blotch. This observation therefore should lead observers to pay particular attention when confronted with one of this group as retention and possible dissection may lead to a more unexpected find; this record constitutes the first occurrence of this species not just for Norfolk, but for virtually the whole of East Anglia with the only other eastern British records from Markshall, Essex in 1997 and 1999, with remaining British records concentrated from southern England as far north as Leicestershire and Cheshire. It was first recorded in Britain in Hampshire in 1975 (Clifton, J. & Wheeler, J., 2012. *Conifer Moths of the British Isles: A field guide to Coniferous-feeding Lepidoptera*).

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Miltochrista miniata **(Forst.) (Lep.: Arctiidae) Rosy Footman: a new form**

Miltochrista miniata is a reasonably stable species that exhibits little variation except for the tone of the ground colour. The forewings are normally pale buffish-orange of varying intensity with bright, darker orange costa and termen. The plain hindwings are of similar, but less intense colouration. Markings usually comprise a black basal dot, a faint irregular black antemedian line, a short black discal spot, a black zigzag postmedian line and a subterminal line of black dots.

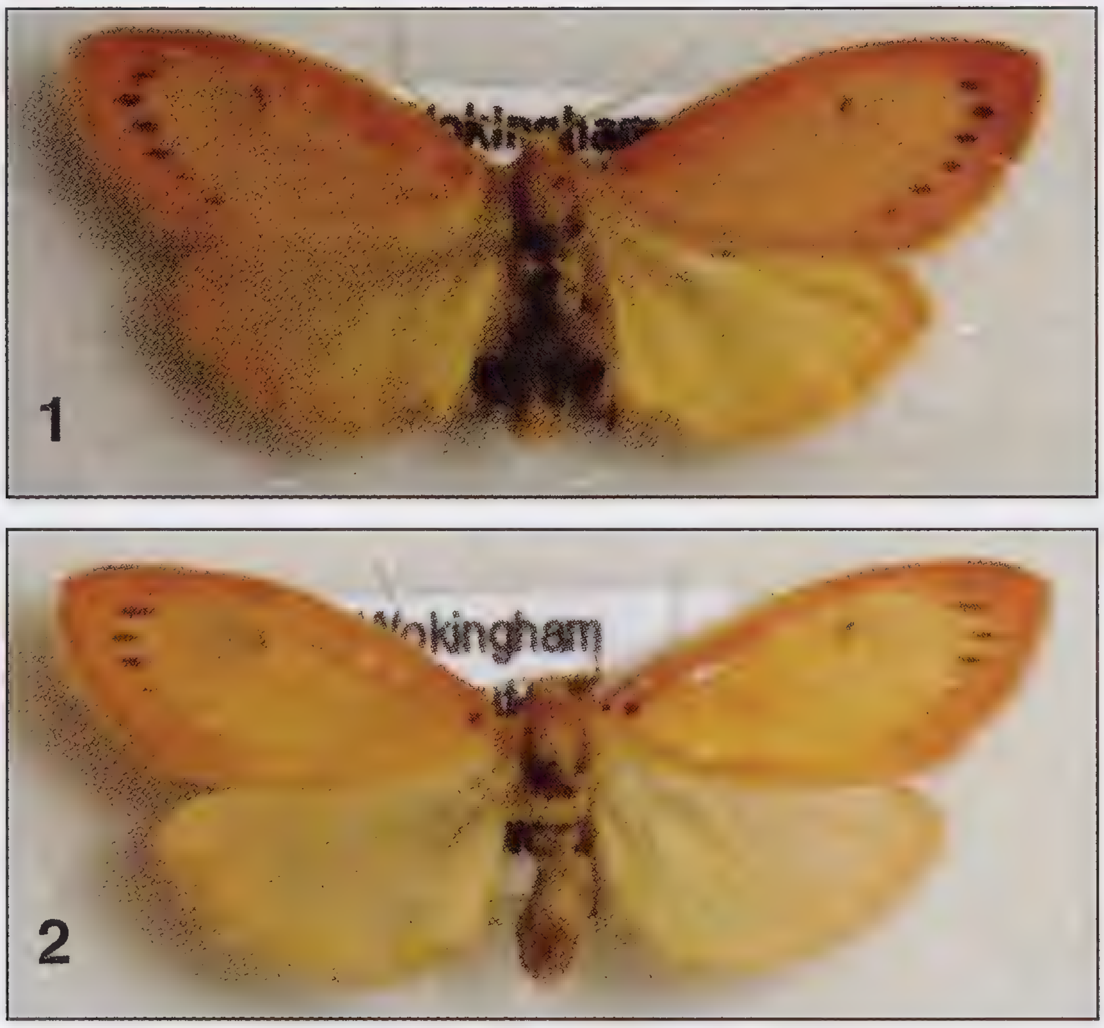

Plate 1. *Miltochrista miniata* (Forster) f. *semi-obsoleta* forma nov. Wokingham, Berkshire, leg. R. Hayward, 1. captured 9.viii.2009; 2. captured 7.viii.2012.

Two identical examples taken on the southern outskirts of Wokingham, Berkshire in 2009 and 2012 are noteworthy because the characteristic black antemedian line and black zigzag postmedian line are both absent (Plate 1). This form does not appear to have been described, named or illustrated in any European text book and I therefore propose the name *semi-obsoleta* for this form.

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An update on the Marsh Moth *Athetis pallustris* (Hb.) (Lep.: Noctuidae) in the British Isles in 2012

Since 1988, when I first became involved with the practical conservation of the *Athetis pallustris,* I have published periodic updates in this journal on how this species is faring. The present article reports on the species during 2012.

Fifty-seven adult Marsh Moth were recorded on the Rimac portion of the Saltfleetby-Theddlethorpe Dunes NNR in Lincolnshire on 31 May 2012, being the combined catch from four light-traps operated all night. This suggests that the population of this scarce species was in a reasonable shape on this site at the start of the 2012 season. However the larval monitoring undertaken on 13 September 2012 found the population density substantially down in numbers following the poor weather encountered over the summer. Fifteen larvae were found in the standard sampling array of twelve litter piles, compared to 76 in the same place in 2011. As in all other recent years, no Marsh Moth larvae were found at the traditional breeding area further north at Sea View, where they were previously numerous in the 1980s and early 1990s, and where the last one was recorded on 10 October 2003.

Prior to 2012 the adult moth was last seen at Sea View on 26 May 2005. Unfortunately no larvae were seen in the litter pile array at the introduction site just to the north of Sea View in 2012; here two caterpillars had been found in each of 2010 and 2011, following the release of 20 in September 2009 after several years of negative

Plate 1. Good condition breeding habitat of Marsh Moth at Rimac, 31 May 2012 (during the adult flight period). Volunteer Laura Jones is shown here using the author's Boorman drop-disc to measure the sward height, which is only about 4cm at this point.

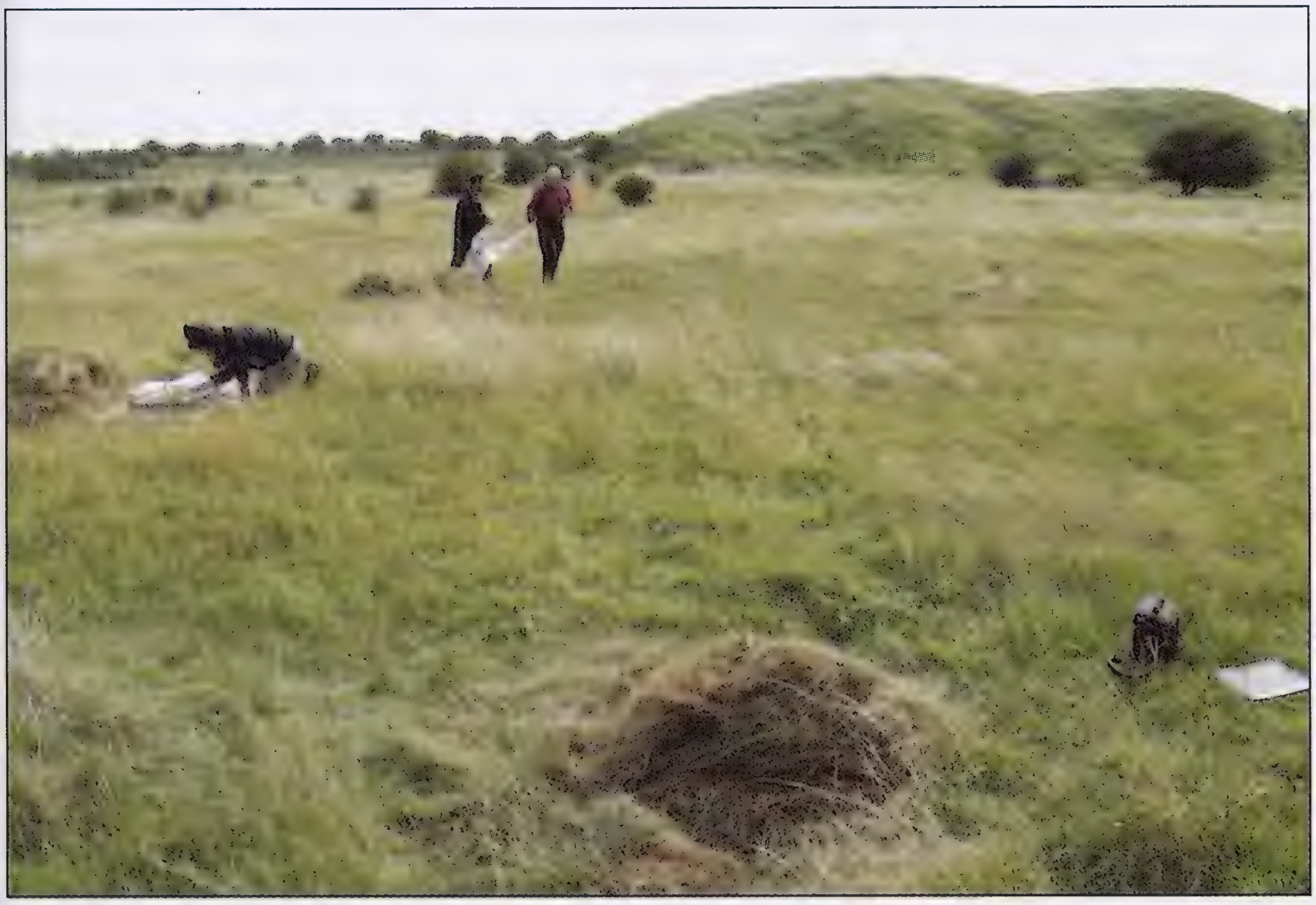

Plate 2. Good condition breeding habitat of Marsh Moth at Rimac, 31 May 2012 (when larvae are in their final instar).

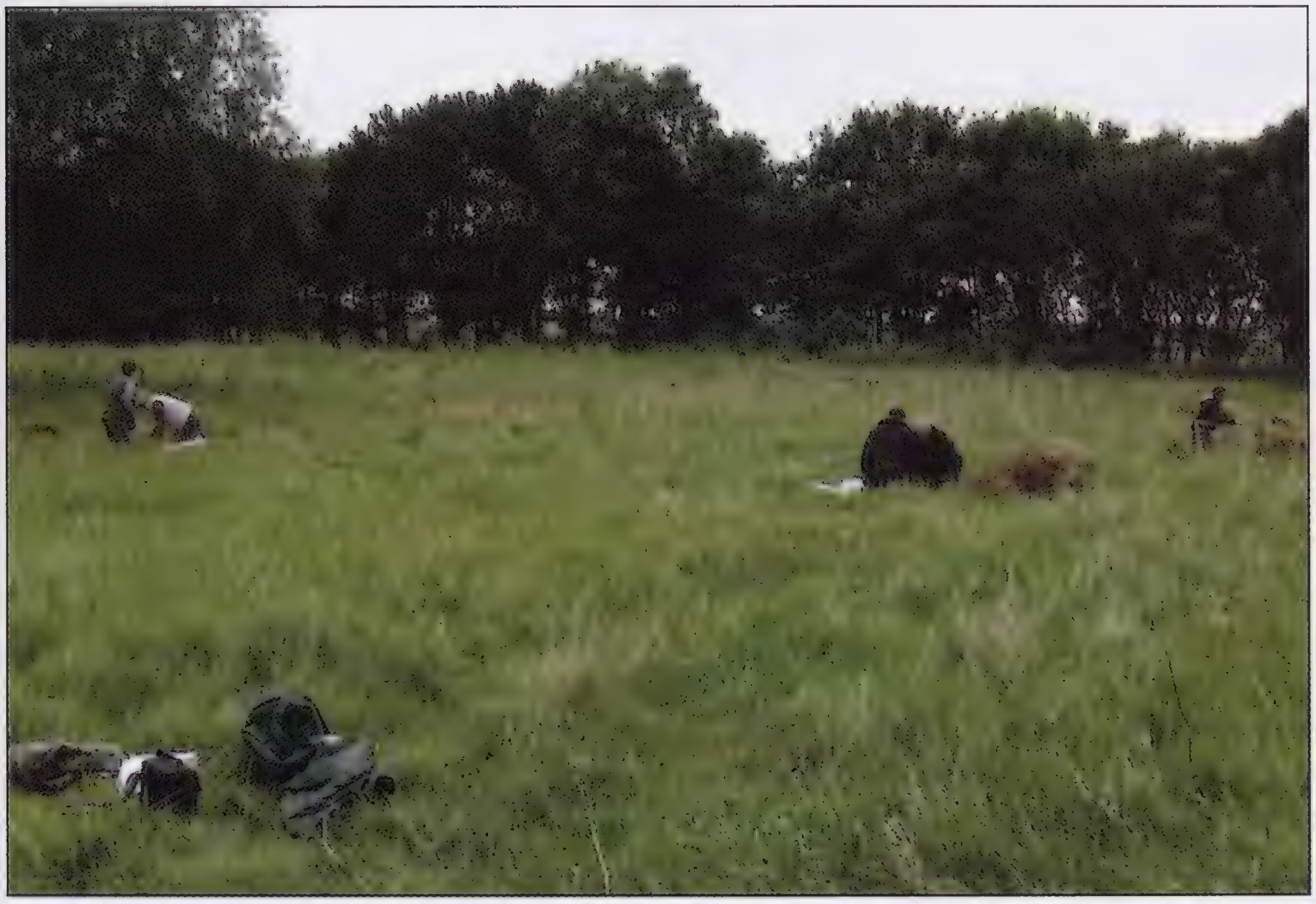

Plate 3. Traditional breeding area for Marsh Moth at Sea View on 13 September 2012, no longer in favourable condition and now without larvae.

results at light traps. This establishment area was formerly a field growing cereal crops, but it has been reclaimed and converted back to potential Marsh Moth habitat over the last decade. However, one adult male was light-trapped just over the hedge from the establishment field, on 31 May 2012, in the Sea View field; it is likely this male came from the establishment area. The Sea View field has been gradually turning into a swamp in recent years, probably due to silting up of the drainage and the increased height of a nearby shelterbelt of trees, making it more sheltered and humid. In 2012, a few plants of Common Reed *Phragmites australis* were recorded growing in the Sea View field, for the first time ever. A CommonToad *Bufo bufo* (L.), a Common Frog *Rana temporaria* and two juvenile Smooth Newts *Lissotriton vulgaris*, as well as a Common Lizard *Zootoca vivipara* were found in the array of twelve litter-piles there in 2012 instead of Marsh Moth larvae. The sward in this traditional breeding area now seems too tall, lush and cool for the Marsh Moth. It always exceeds 10cm in height by September, as measured by the Boorman drop-disc method (JNCC, 1986. The Management of chalk grassland *Focus in Nature Conservation,* 17), in contrast to the area at Rimac where the Marsh Moth breeds most successfully, which is generally much less than 10cm tall and maintained in this condition by low density grazing by cattle. No amphibians or reptiles were found in the litter-pile array at Rimac.

A single male Marsh Moth was also recorded at Gibraltar Point National Nature Reserve – on 1 June 2012 by Lincolnshire County Moth Recorder Colin Smith and a team of volunteers. This confirms the Marsh Moth is still present at this, the only other known site for it in the British Isles.

This invaluable monitoring work was undertaken with support from Natural England, Butterfly Conservation and a team of volunteers including personnel from the Lincolnshire Wildlife Trust. The author would like to thank in particular Peter Roworth of Natural England, for finding the funding to cover the author's costs, Mark Parsons, Head of Moth Conservation at Butterfly Conservation, Dorset, for his continuing moral support during financially difficult times, Colin Smith for co-ordinating the team of volunteers and Roger Briggs of Natural England for help with on-site logistics and for joining us during the monitoring.

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A new aberration of the Figure of Eighty moth *Tethea ocularis* (L.) ab. *obsoleta* ab. nov. (Lep.: Thyatiridae)

On the night of 26 June 2012, as part of an on-going survey of the National Trust's Ashridge Estate in the Chiltern Hills, I ran two 125 watt MV lights on a steep west-facing chalk grassland slope not far from Steps Hill, Buckinghamshire. It was reasonably warm (20°C at 01.15hrs when the lights were turned on, 17°C at 21.45hrs when the session ended), but there was an annoyingly strong westerly breeze throughout. One trap was placed high on the slope, fairly close to the beech woodland which sits on the hilltop, while the other was positioned lower down, adjacent to a scrub belt which provided some degree of protection from the breeze.

Considering the time of year the results were very disappointing, with just 25 species appearing at the higher light and 45 coming to the lower one. They included only one or two of the anticipated calcareous grassland specialists and apart from the crambid *Chrysoteuchia culmella* (L.) of which more than 100 individuals attended the two traps, no species achieved numbers in excess of single digits. In fact the most interesting sighting was probably that of a beetle, one glowing female *Lampyris noctiluca* (L.) being spotted close to the upper light. When it was time to process the catch, the lower light (a Skinner pattern trap) was found to have caught one example of a macro-moth which I initially thought might be Poplar Lutestring *Tethea or* ([D.& S.]). However, it looked rather odd so I decided to take the specimen home in order to study it more closely in daylight.

I am rather glad that I did. The following morning it became clear to me that the features all pointed to it being Figure of Eighty *Tethea ocularis*, apart from there being no sign at all of the diagnostic "80" marking for which the species is named both scientifically ("*ocularis* – pertaining to the eyes; from the eye-like stigmata on the forewing" – see Emmet, A.M., 1991. *The scientific names of British Lepidoptera: Their history and meaning*. Harley Books) and colloquially. I photographed the moth from both sides and e-mailed copies of the pictures to Martin Townsend, who agreed that this was indeed an odd-looking *ocularis*.

Subsequently, I contacted Martin Honey at the Natural History Museum in London, who checked the moth against the collections there as well as looking at the relevant pages in the unpublished manuscript by Goodson & Read dealing with the forms of British moths. This exercise suggested that no such form or aberration of *ocularis* appears to have been previously described, the closest being ab. *microphthalma* Cockayne, in which "*the stigmata do not touch one another; they are much reduced in size and almost completely filled with dark scales*". (Cockayne, E. A., 1951. Aberrations of British Macrolepidoptera. *Ent. Rec.* **63**: 30 & Plate 2, Fig. 1).

I propose the name *obsoleta* for this aberration. In typical specimens, the "8" and the "0" shapes are formed of whitish scales that are more or less completely, though extremely thinly, outlined with black scales, with the two "numbers" touching at the base of the "80" and the whole design sitting within the fawn-coloured median fascia.

In *obsoleta* ab. nov., illustrated here at Plate 1, there is absolutely no trace of the stigmata and the median fascia is a uniform fawn colour apart from the vague dark line that runs the length of the fascia quite uninterrupted.

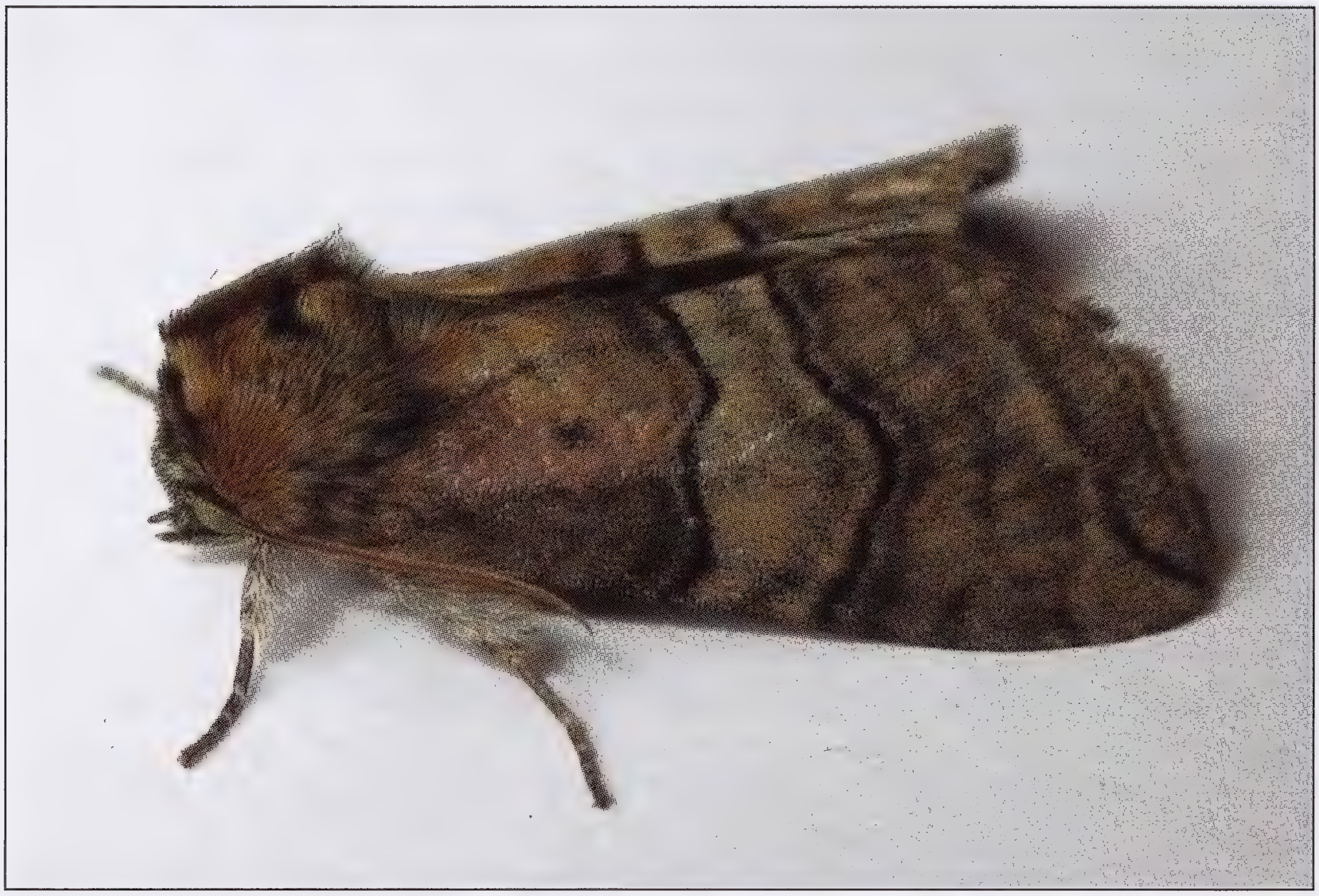

Plate 1. *Tethea ocularis* (L.) ab. *obsoleta* ab. nov. (Figure of Eighty). Ashridge Estate, Buckinghamshire, 26 June 2012, leg. D. Wilton. In coll. NHM (London).

I am most grateful to Martin Honey at the Natural History Museum for his assistance in this matter. The specimen is currently in the possession of Martin Albertini, who will in due course donate it to the Natural History Museum in London.

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Change to the list of County Moth Recorders

Since the list of recent changes was published here (*Antea* 6-7), I am advised that Marc Taylor has stepped down as Macro-moth Recorder for Wiltshire. The new formal Recorder for macro-moths in VC 7 (North Wiltshire) and VC 8 (South Wiltshire) is:

Dave Brotheridge, 7 Rawlins Park, Avebury, Near Marlborough, Wiltshire SN8 1RQ (E-mail: d.brotheridge@btinternet.com).

Michael Smith remains in post as the Wiltshire Micro-moth Recorder and Wayne Clinch attends to the IT side of the recording process.

EDITOR

Some observations on the flight period of *Xenolechia aethiops* (Humphreys and Westwood) (Lep.: Gelechiidae) in the British Isles and a request for records

For many years the flight period of *Xenolechia aethiops* has been reported as single brooded, occurring in June (Stainton, 1859), in May and June (Meyrick, 1927) and more recently mid-May to early June (Emmet & Langmaid, 2002). On the continent a different picture is portrayed, as detailed in Huemer & Karsholt, 1999, where the moth flies from March to June, and from July to September in the south. The moth has historically been reported from much of the British Isles.

With the launch of the Gelechiid Recording Scheme and its associated website (*www.gelechiid.co.uk*) in early 2012, the researched and incoming records of *X. aethiops* allowed a more detailed assessment of its flight period to be carried out. This is still an incomplete picture as only 76 records are held on the Scheme database, but the differences in the flight period beginning to appear from the available data and the information as published within the British Isles is worth highlighting. Of the records, 54 mention a month or a full date, with 45 of these between late March and mid-May. Of the remainder, six are during late May to 1 June and the remaining three are in July. There is no significant latitudinal link, as might have been expected, between the earlier and later dates, many of the April dates being from the northern half of the British Isles. In fact the two earliest records, in late March, were from Argyllshire and Northumberland and many of the latest dates were from Scotland.

This leaves the moths found in July, which are all at least a month later than any other records on the database – on 1 July 1982 (Northumberland), 6 July 1957 and 9 July 1946 (both Yorkshire). It is difficult to explain these in relation to the rest of the records on the database and examination of the specimens would be advisable, if they are still extant. However the flight periods noted in Europe do suggest that mid to late summer records of this species do occur in some regions, although it is stretching the imagination to link the above English counties with the climate in southern Europe!

X. aethiops is associated with recently burnt and freshly regenerating heather and the general perception amongst those I have spoken to is that it has become a scarce moth. There are only four post-2000 records on the Scheme database, two from the same site in Scotland in 2010 and two from different parts of Northumberland. Its proposed status in Davis (2012) is provisional Red Data Book category 3.

It would be very useful if those visiting recently burnt areas of heather or bare ground sites where *Erica cinerea* (Bell Heather) is re-growing look out for the adult in April and perhaps even July (it comes readily to light, can be found resting on fence posts and flies occasionally during the morning) or for the larva in June and July. The larva feeds from a silken tube amongst shoots of the Bell Heather. Additionally, if anyone has any records of this moth that have not been submitted to the Gelechiid Recording Scheme, these would be greatly appreciated.

I would like to thank the many contributors of data to the Scheme which has allowed a more detailed examination of Gelechiid data from across the British Isles than has been possible in the past. I would also like to thank Keith Bland for his considerable

help during the visits to Edinburgh Museum by my wife Carolyn and I to examine the collections and diaries (particularly those of E. C. Pelham-Clinton), as well as making a copy of Stainton's manual available for research.

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Recording the Goat Moth *Cossus cossus* (L.) (Lep.: Cossidae) and a thought about its conservation

I am fortunate in living close to some thriving colonies of the Goat Moth *Cossus cossus*. The recently published atlas (Hill, Randle, Fox & Parsons, 2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation, Dorset) shows many more records before 2000 than afterwards, with a concentration in Cambridgeshire. This spread seems to extend across into the Brecks of Norfolk. Other strongholds, according to the *Atlas*, are along the south coast of England, Devon, South Wales and central Scotland.

In my own area, the species is most often present in the trees and bushes that surround mature gravel pits, that is, those pits which are no longer used for extraction. Here it is occasionally found in various types of willow and sallow (*Salix* species), but its clear preference is for Osier *Salix viminalis*. Older bushes – with the best will in the world, an osier can never claim to be a tree – with collapsing lower branches of up to 15cm are ideal and often show extensive borings, but branches as slender as 4cm are occupied by smaller larvae. Members of the willow family are the first species to occupy the niche created by gravel extraction, presumably because of their wind-borne seeds which settle on the water and drift to the edge. At one site Silver Birch *Betula pendula*, another recognised host, has long been present, but shows no sign of being utilised as yet. The Goat Moth is also found at lower densities in some sites adjacent to the River Great Ouse; at many of these there appears to be the traditional association with old pollarded willows. Finally, occasional records have come from places far from the water's edge and it is likely that small, isolated colonies, perhaps in a single tree, can persist for many years.

I have never seen the eggs of the Goat Moth and it would be a brave man who decided to spend much time searching for them; the bark of the older trees and bushes that they favour is often deeply fissured and impossible to examine thoroughly. Very young larvae can very occasionally be found under bark, but its removal is labour intensive and in no way beneficial to the host plant. Other interesting grubs will also be found when searching for Goat Moth larvae, but at all stages the reddish-pink coloration of the latter should identify them. The evidence of the presence of larger larvae is obvious, even to the untrained eye; they tunnel through the timber for three or four years, creating galleries up to 15mm in diameter and these eventually become visible as the wood begins to break down. The Greater-spotted Woodpecker *Dendrocopos major* is a great fan of the Goat Moth larva and its rectangular chisellings are another sign that the species might be present (personal observations). Sawdust-like material often accumulates at the base of trunks and beneath heavily infested horizontal branches.

The species is most often recorded, however, in late summer or early autumn when the huge, fully-grown caterpillar leaves the wood that has nourished it and wanders about looking for a pupation site. Whether they all do so seems still unclear; the textbooks do not agree. I have twice found empty chrysalids poking out of cocoons formed in tree trunks several feet from the ground, but I have found many more emerged from the sandy, well-drained soils around the gravel pits. I suspect that most leave the tree. The empty chrysalis is a most distinctive thing and not easily confused with any other species. To me they look like tiny reddish-brown lobsters resting half out of the ground – the moth seems to force the chrysalis to the surface before emerging. Where the soil is light and thinly vegetated, searching for the empty chrysalis cases can be an effective method of recording.

The adult moth does occasionally come to MV light, but when it does so it frequently rests nearby rather than entering a trap. Its highly cryptic appearance means that unless searched for in these situations it is easily missed. Those specimens found in traps are usually battered and worn – a pity as when fresh this is a beautifully patterned moth if one takes the time to study it carefully.

Clearly, the larval stage, or the evidence of it, is the best to search for if one is trying to record the presence of the moth. Systematic searching of open ground close to the trees and bushes during the day in September and October is likely to produce a larva or two, but it is time-consuming and one will undoubtedly be asked more than once by passers by if one has lost something. A more effective approach is to work through some of the soft, rotting timber that accumulates beneath sallow and willow bushes. If they are present in any numbers, you should find one in its loose cocoon of silk and chewed timber. At this stage in the autumn it will be the larva, not a pupa. They will still be quite lively and if disturbed much will begin to leave the position, presumably to begin again elsewhere. I haven't experienced it personally, but they have the reputation of being able to give a painful nip and they do adopt a threatening posture. Whilst others do form the cocoon in soil as suggested by Porter (1997. *The Colour identification Guide to Caterpillars of the British Isles*. Viking) and as confirmed by where I have found the emerged cases, the soft rotting timber described above sometimes holds high concentrations of the larvae. In October 2012, for example, I found five larvae in forty minutes of searching such situations. Like a number of species, the larva overwinters in the cocoon and the pupa is formed in the spring, possibly as late as May.

The Goat Moth is a Nationally Scarce (Nb) species according to Waring (2003, *The Field Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing). As such, all factors that might affect its conservation should be considered. If its presence is known or suspected, it would be wise to leave rotting timber where it falls as this might be of significance, offering the best sites for successful over-wintering. Similarly, recorders should exercise restraint in working through such timber. I have no problem with one or two specimens being added to collections, but would not want to think that in identifying a possible way of conserving the moth, another threat to it has been created! The Goat Moth is one of our most distinctive, interesting and attractive species.

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2012 – a good year for finding new and rare microlepidoptera species in Gloucestershire

Following 20 years as the Butterfly Recorder for the Gloucestershire Naturalists' Society, since 2002 I have concentrated on recording moths, mostly by daytime fieldwork. By trying to find species I have not previously recorded I have had some success at making new vice-county records for VC33 (East Gloucestershire) and VC34 (West Gloucestershire) including more than 20 new county records. I have also made the first tetrad-mappable VC33 or VC34 records in the county Moth Recorder's database for numerous species, some of which had not been recorded in the county for many years. Up to 2011, I had found a total of six nationally rare microlepidoptera species (pRDB ratings in the status review by Tony Davis, Butterfly Conservation Report S12-02, January 2012), including two first county records: *Cydia illutana* (Herrich-Schäffer) and *Pammene ignorata* (Kuznetzov). Three of the other four rare species were within or close to areas where they had already been recorded, though not since 1955 in the case of *Caloptilia hemidactylella* (Denis & Schiffermüller) which I found in 2009.

Surprisingly, 2012 has turned out to be by far my best year for finding new sites for national rarities (10, which is more than during the previous 10 years in total) and also a good year for new county/vice county records, in spite of two limiting factors. One of these was of course the generally poor summer weather. The other was my self-imposed task of making frequent visits to Butterfly Conservation's new Cotswold grassland reserve "Rough Bank" in order to discover and record the moths present on the site. As a result I did much less daytime fieldwork elsewhere in the county compared to the previous few years since I retired; nevertheless it produced several "good finds".

My visits to Rough Bank (VC 33: O.S. grid reference SO 90) resulted in two first county records and one VC33 first and included three rarities:

Trifurcula headleyella (Stainton) pRDB2, adults found on 4 & 10 June. First Gloucestershire record. Male specimens, species confirmed by dissection.

Nemophora cupriacella (Hübner) Nationally Scarce – Nb, adults found on 14 & 17 July. First VC 33 record. Females (the species is now described as parthenogenetic).

Coleophora therinella (Tengström) Nationally Scarce – Nb, adult found on 26 July. First Gloucestershire record. A female specimen, identified by dissection.

Coleophora niveicostella (Zeller) pRDB3, adults found on 3 & 10 August. New 10Km square and first Gloucestershire record since 1916. I also found an adult of this species on 8 August when recording on Cleeve Common (VC 33: SO 92), another new 10Km square. All three male specimens, species confirmed by dissection.

Epermenia profugella (Stainton) pRDB2, adult found on 14 August. New 10Km square and first Gloucestershire record since 1983. A male specimen, species confirmed by dissection.

Four of these finds (and also a total of 20 additional Nationally Notable moth species) resulted from the many hours I spent surveying the site in the daytime. *C. therinella* came from "trapping" with an internally-lit tube of white sheet material hanging over a foldable frame, which is very effective for attracting microlepidoptera for potting and subsequent identification. The species listed below, which I found at other sites, illustrate four methods of making good finds: (1) making lucky catches when light-trapping at night, (2) good luck noticing adults, larvae or feeding signs whilst out walking in the countryside in the daytime, (3) general recording visits to sites, trying to find larval feeding signs or to disturb and net adult moths of any species, and (4) searches for particular species on sites with apparently suitable habitat (which may produce the "target" species and/or something else of interest).

Trifurcula subnitidella (Duponchel), pRDB2, adult male specimen with the distinctive orange-yellow patch of scales on the underside of the forewing, 19 May at the Gloucestershire Wildlife Trust's (GWT) Brassey NR (VC33: SP 12). New 10Km square and second Gloucestershire record. I had been sweeping the grassland there in the hope of finding *T. cryptella* (Stainton), which I had found at Rough Bank earlier that month.

Pselnophorus heterodactyla (Müller), pRDB1, found on 21 May (larva) near Slad and again on 28 July, adult disturbed whilst I was inspecting trackside vegetation near Sheepscombe (both VC 33: SO 80). Both are known sites where I had recorded the species previously; I was deliberately checking the first which had been a new site when I also found a larva feeding on Wall Lettuce *Mycelis muralis* there in 2009.

Pammene ochsenheimeriana (Lienig & Zeller), pRDB2, two adults found on 9 June in the Forest of Dean near Parkend (VC 34: SO 60). First Gloucestershire record. The first specimen was noticed at rest on low vegetation by my wife whilst we were on a walk and I had stopped to look at something else, the second specimen I noticed and caught about 1km from the first.

Scythris grandipennis (Haworth), Nb, adult male, confirmed by dissection, found on 4 July on Charlton Kings Common (VC 33: SO 91) when disturbed from a gorse bush. First VC 33 record.

Chrysoclista lathamella (Fletcher), pRDB2, adult male, confirmed by dissection, found on 5 July in the Forest of Dean near Parkend (VC 34: SO 60). First Gloucestershire record. An extremely lucky find: whilst I was noting down a common species my wife noticed something dark under a leaf above us in a young sallow. Taking a quick look through close-focussing binoculars it was clearly a moth of a species I had never seen before, in a strange pose with its wings slightly spread. Attaching my spring-folding net to the end of my hiking pole (I had modified the net handle for this purpose earlier in the year) I carefully tried to catch the moth, only to find that it was unable to move: it was dead and firmly attached to the leaf. Luckily I was able to bend the branch down far enough to reach and remove the leaf.

Epermenia insecurella (Stainton), pRDB2, adult found on 19 July at GWT Pasqueflower NR near Cirencester (SP 00, VC33). First Gloucestershire record. The larval foodplant, Bastard Toadflax *Thesium humifusum*, is quite common on parts of the site, and I had tried unsuccessfully to find the moth there several times in recent years. The main purpose of this visit had been to look for its larval feeding signs, but I also spent some time sweeping my net across the short turf and eventually found one worn adult with remnants of two scale-teeth on the dorsum of one forewing and enough of the other markings remaining to confirm its identity without the need for dissection.

Tinea columbariella (Wocke), Na, adult male, confirmed by dissection, trapped at home (SO 91, VC33) on 26 July. First VC33 record. A female specimen, species confirmed by dissection.

Coleophora versurella (Zeller), adult found on 6 August on Charlton Kings Common (SO 91, VC33) when disturbed from grass or gorse scrub. First VC33 record.

Stigmella mespilicola (Frey), pRDB2, occupied and vacated larval mines in leaves of Wild Service Tree *Sorbus torminalis* found on 13 September near Lydney (SO 60, VC34). New 10km square record, but I had found vacated mines there in 2011 and wanted to check the larva before recording the species.

Dichomeris ustalella (Fabricius), pRDB1, larva found on 13 September near Flaxley (SO 61, VC34). New 10km square record and perhaps only the third known UK area for the species (Plate 1), the other two being along the Wye valley around Tintern (recorded from both the English and Welsh sides) and a wood in Worcestershire. I was deliberately looking for its larvae in leaf-spinnings on lime trees; the larva I found was between a leaf and a flower bract spun flat together, close to a vacated pair of flat-spun leaves showing feeding signs.

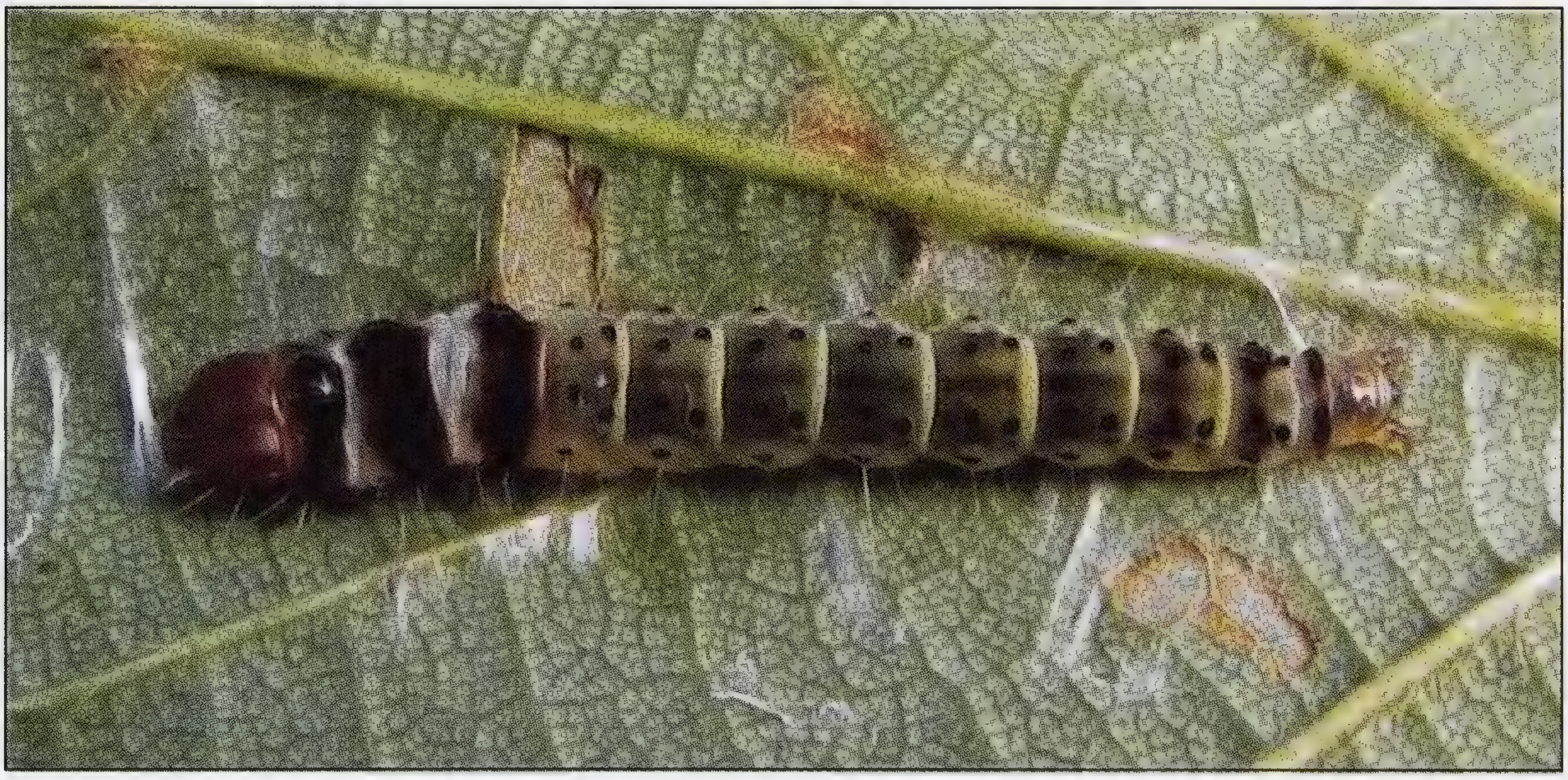

Plate 1. Larva of *Dichomeris ustalella* (Fabricius), Flaxley, Gloucestershire, 13.ix.2012.

Finding a searched-for species is always encouraging, regardless of its national and county status. To increase my chances of such finds, several years ago I started listing "target" species with one or two single-line entries for each, indicating when to look for what as adult and/or early stage and in some cases where to try. This list now includes every species I have not yet recorded, but which has been found in the area by others (whether recently or longer ago), excepting rare migrants, accidental imports etc. The list also includes numerous species not yet recorded in the county, but for which there is apparently suitable habitat. Many of these have been recorded in adjacent counties so it seems reasonable to expect some of them to be here, giving scope for further additions to the county list in future.

My thanks to Roger Gaunt, until recently the Moth Recorder for Gloucestershire, who has provided information on county/VC status and record data for the tetrad maps website which I produce.

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Parectopa ononidis (Zeller) (Lep.: Gracillariidae) – new to Northamptonshire

I regularly operate a 125 watt MV trap and a 20 watt actinic trap in my modestly proportioned, semi-rural Thrapston garden, Northamptonshire (VC32; O. S grid reference SP 993783). On 31 July 2012, I noticed a very small but well marked moth resting on the house wall adjacent to the mercury vapour trap. It looked to be quite restless and so I potted it without delay. I felt sure that I recognised the moth as *Parectopa ononidis* (Zeller), as I had seen this species for the first time at Durslton Country Park, Dorset earlier, on 25 May 2012. This very attractive, small moth stood out as the most significant amongst a rather modest 49 species catch for the time of year.

Upon consultation with the Northamptonshire micro-moth list published on the group's micro-moth web site at *http://www.northamptonshirewildlife.co.uk/nmoths/micromoths/nmicromothsCountyList.html* (accessed 1 August 2012), I discovered it not to be listed. A photograph of the set specimen was later submitted to David Manning, the County Micro Moth Recorder, who confirmed the identity and that it was indeed new to Northamptonshire.

At the time of enquiry there were 16 records from neighbouring Bedfordshire, VC 30, these being predominantly from a Rothamsted Insect Survey trap, but also including five records of larval mines on Red Clover *Trifolium pratense* (David Manning, personal communication). I hope to look for larval mines in 2013 in an attempt to increase the known distribution of this species within Northamptonshire.

My thanks go to David Manning for his comments on the distribution of this species in both Bedfordshire and Northamptonshire.

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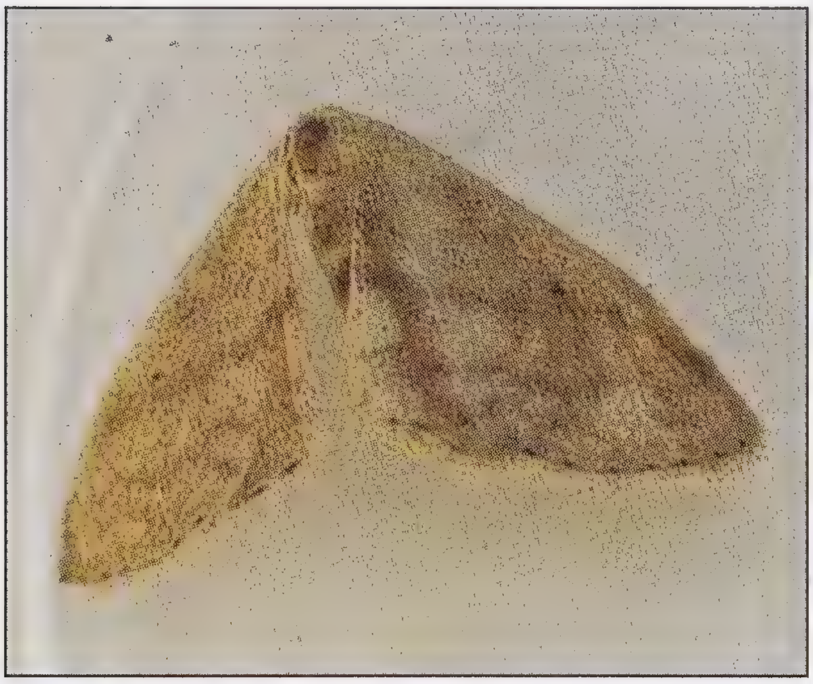
An adventive occurrence of *Scopula minorata* (Boisduval, 1833) (Lep.: Geometridae) in Britain

On 19 February 2013, I received an e-mail from Mr Charlie Streets (CS) of Halifax, West Yorkshire (VC 63) saying that he had found a small geometrid moth between the outer leaves of a cabbage *Brassica* sp., with a stated origin in Spain, purchased from a Marks and Spencer store in Halifax on 15 February 2013. On preparing the cabbage at home later that day the moth was discovered alive and flew briefly on being disturbed, alighting on a draining board before being captured.

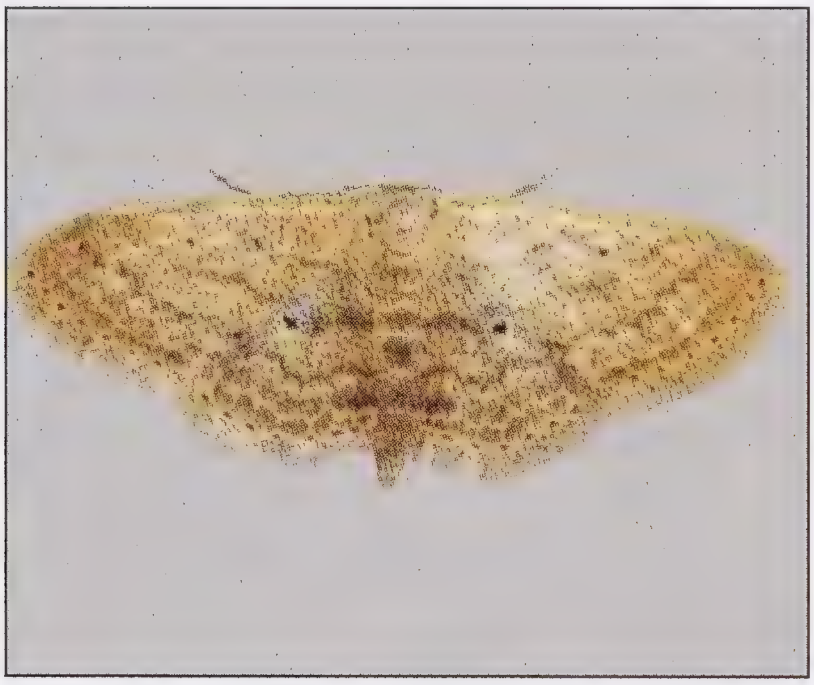
As he did not recognise the species, CS e-mailed a photograph to me, noting that it was evidently of a small "wave" (Sterrini), possibly in the genus *Idaea*. However, the photograph was insufficient for a positive identification and so I suggested that he post the moth to me for further investigation. This he duly did.

Dissection of the genitalia revealed it to be a male *Scopula minorata* (Boisduval). Fortunately I already had a slide of the male genitalia of this species, from a moth originating in Mallorca, Balearic Islands, so was able to compare the preparation with that as well as with the illustrations in Hausmann (2004. *The Geometrid Moths of Europe* vol. 2, Apollo Books), where the male genitalia are illustrated on page 516, Fig. 153. The specimen is illustrated here in Plate 1. A living example of this species, in its natural resting position, is also shown in Plate 2.



Scopula minorata Halifax, West Yorkshire, ♂, 15.ii.2013, leg. C. Streets.

Photograph © C. Streets



Scopula minorata La Sanxa, Parque Natural de L'Albufera, Valencia, Spain, ex ♀, 9.x.2003, leg. N. M. Hall, emerged 25.ii.2004.

Photograph © N. M. Hall

There does not appear to be any previous record of *Scopula minorata* being found in the British Isles. It has a southern distribution in Europe largely bordering the Mediterranean sea and including the Mediterranean islands, from Portugal in the west to Bulgaria and Turkey in the east. It also occurs along the southern coast of the Mediterranean Sea and southwards across tropical Africa. It is plurivoltine and can occur throughout the year (Hausmann, *op. cit.*).

The larvae are said to be very polyphagous although there is no mention of the Brassicaceae among the recorded foodplants. Although CS did not look specifically, he did not see any sign of feeding or of pupal exuviae being present and it is likely that the moth entered between the cabbage leaves as a refugium during the day. Vegetable products are usually transported to Britain from southern Europe by means of refrigerated containers or lorries and this may have ensured that the moth remained immobile during the journey.

My thanks are extended to Charlie Streets for passing the specimen on to me and for permission to publish this note of his record. I am also grateful to Norman Hall for providing the photograph of the living moth in Plate 2 for comparison.

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DESCRIPTION OF A NEW SUBSPECIES OF *CALLISTEGE MI* (CLERCK, 1759) (LEP.: EREBIDAE): *CALLISTEGE MI DELPLANQUEI*, NOV. SSP.

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Abstract

A new subspecies of *Callistege mi* (Clerck, 1759), *Callistege mi delplanquei* nov. ssp., is described from southern France and its distribution specified.

Keywords. Lepidoptera, Erebidae, Catocalinae, new subspecies, France.

Résumé

Une sous-espèce nouvelle de *Callistege mi* (Clerck, 1759), *Callistege mi* delplanquei nov. ssp., est décrite de France méridionale et sa répartition est précisée.

Mots-clefs. Lepidoptera, Erebidae, Catocalinae, sous-espèce nouvelle, France.

Introduction

The Mother Shipton *Callistege mi* (Clerck, 1759) is currently placed in the family Erebidae (*vide* Nieukerken et al., 2012). This common species, widely distributed in the Palaearctic Region from Spain to Japan, Northern Africa and Scandinavia to Eastern Siberia, seems to be rather rare and perhaps threatened in some parts of its distribution, especially in urban areas such as Paris (Nowacki, 1998; L'homme, 1923-1963). However it still remains frequent in other countries, for example in Great Britain where the species can be observed in a major part of England, Wales, Scotland and Ireland (Hill *et al*, 2010), especially in coastal areas.

I have been observing the moth regularly both in northern and southern France and it is clear that specimens from the north (near Paris, for example) are consistently more ochreous than in the south, where the ground colour of the forewings is chalky-white. Until now, most authors have not recognised this difference (e.g., Leraut, 1997) assuming that the different coloration of specimens was due to individual variation. Whilst it is true that some specimens can vary, especially in northern populations, the study of a series of specimens (188, including 36 of the southern population) in the collection of the National Museum of Natural History (NMNH) in Paris, as well as in some private collections (including my own) and of pictures which can be found in books and on the Internet, leads me to conclude that the difference in ground colour is constant between the northern and southern populations. Therefore, I now describe the southern form as a new subspecies.

Callistege mi delplanquei nov. ssp.

Holotype (Plate 1, Figs 1 & 2). 1ex., female, France, Le Charamel-Bas (Col des Fillys, 1150m), Alpes de Haute-Provence, 17.vi.2011, Leg. Guillaume Leraut, coll. G. Leraut, NMNH, Paris.

Paratype. 1 ex., Mortroux, near Rochefort (Charentes), 24.vi.1907, Leg. Daniel Lucas, gen. coll. NMNH, Paris); 1 ex., La Chalamette, near Jausiers, Alpes de Haute-Provence, 15.vi.2011, Leg. Guillaume Leraut, coll. G. Leraut, NMNH, Paris; 1 ex., Bayasse, Alpes de Haute-Provence, 21.vi.2012. Leg. Guillaume Leraut, coll. G. Leraut, NMNH, Paris; 1 ex., Rochefort, Charente-Maritime, 24.vi.1902, gen. coll. NMNH, Paris (Plate 1, Figs 3 & 4); 1 ex., Saint-Barnabé (Coursegoules), Alpes-Maritimes, 18.vi.1933 (NMNH, Paris) (Plate 1, Figs 5 & 6).

Habitus. Size and general pattern similar to the nominate subspecies. Upperside and underside colour always chalky-white, without any traces of ochre or yellow even in the costal area, whereas this colour always appears in the nominate subspecies (even clearer pale-yellow specimens of *Callistege mi mi* have a yellow-brownish colour on the underside). The taxon described as *Phalaena litterata* Cyrilli, 1781 [*nomen preocc.*] (and sometimes, erroneously, given as a whitish form with reduced clear areas) probably matched to that entity, given that it had been described from Italy. Nevertheless, the noun was already utilised and *Callistege mi* describes northern populations of this species (type-locality: Sweden).

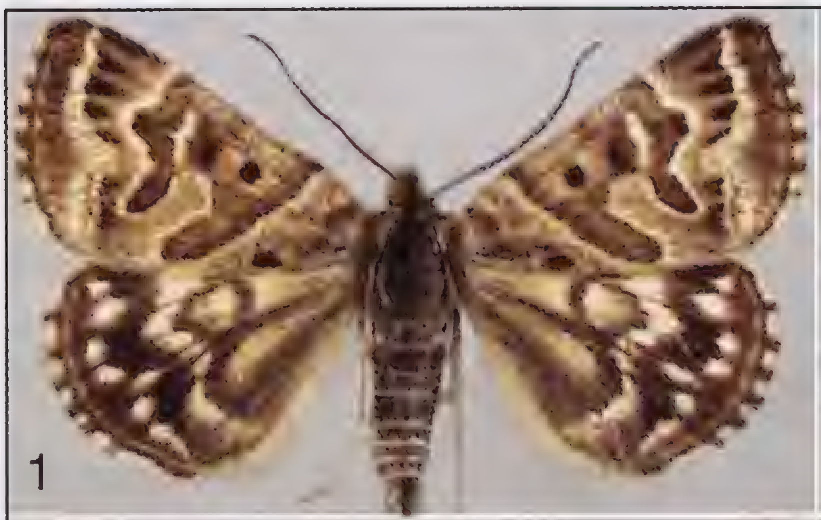
Surprisingly, the southern subspecies seems to appear later in the year, both at altitude and at sea level (Charente-Maritime, Alpes-Maritimes…): if *C. mi mi* appears mostly from the beginning of May to the end of June, *C. mi delplanquei* seems to fly generally between mid-May and July. This hypothesis could be confirmed by new wide-scale studies.

Distribution. Southern Europe. In France, from southern parts of Brittany (Vendée) to the South of Burgundy.

Derivatio nominis. Dedicated to my late godfather and friend Charles Delplanque.

Some locations for *Callistege mi delplanquei* nov. ssp.
France. *Vendée*. Auzay, 27.v.1920 (*D. Lucas*); Forêt de Vouvant (Mervent), v.1901 (*D. Lucas*); L'Ile-d'Elle (Near Fontenay-le-Comte), mid-May 1932 (*D. Lucas*); *Charente-Maritime*. Rochefort-sur-Mer, 24.vi.1902 (*D. Lucas*); Dompierre-sur-Mer, 11.vi.1950 (*J. Bourgogne*); *Puy-de-Dôme*. Besse-en-Chandesse (*D. Lucas*); *Côte-d'Or*. Saint-Jean-de-Losne (*D. Lucas*); *Ain*. Lélex, 9.vii.1946 (*J. Bourgogne*); *Alpes de Haute-Provence*. Digne, May 1905 (*H. Brown*), vi.1897 (*L. De Joannis*); Barcelonnette, July 1998 (*G. Leraut*); La Chalamette (Jausiers), alt. 1400 m, 15.vi.2011 (*G. Leraut*); Le Charamel-Bas, 17.vi.2011 (*G. Leraut*); Bayasse, 21.vi.2012 (*G. Leraut*); *Alpes-Maritimes*. Coursegoules, Saint-Barnabé, 16/19.vi.1933 (*Coll. J. Bourgogne*); Valberg, alt. 1700 m, 22.vi.2012 (*G. Leraut*); Roubion, Les Buisses (alt. 1450 m), 24.vi.2012 (*G. Leraut*); *Vaucluse*. Brantes, May 1905 (*H. Brown*); *Gers*. Auch, 29.iv.1924 (*Gen. coll.*); Pavie, 26.vi.1905 *(C. Dumont)*; *Pyrénées-Orientales*. Les Ambollas, 20.vi.1914 (*D. Lucas*).

Some locations for *Callistege mi mi* (Clerck, 1759)
FRANCE. *Oise*. Compiègne, 23.v.1926 (*G. Praviel*), 13.vi.1937, 19.vi.1938 (*J. Bourgogne*); Plessis-de-Roye, 1.vii.1915 (*D. Lucas*); *Val d'Oise*. Beauchamp,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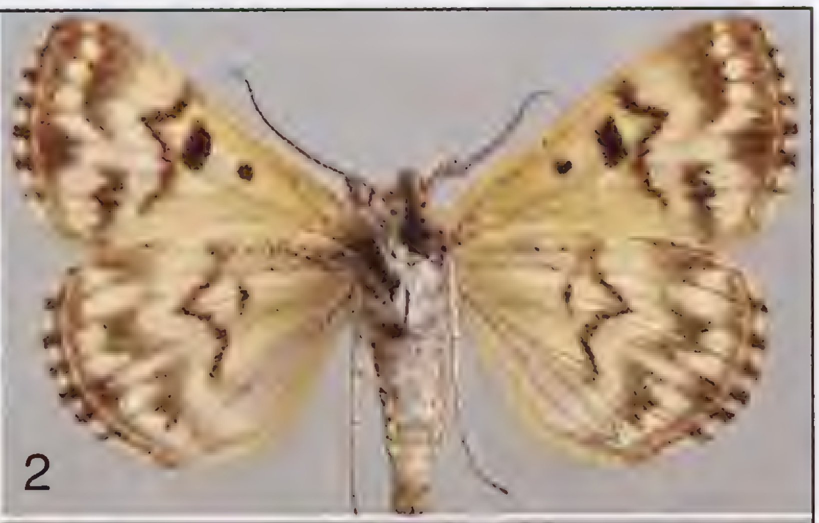
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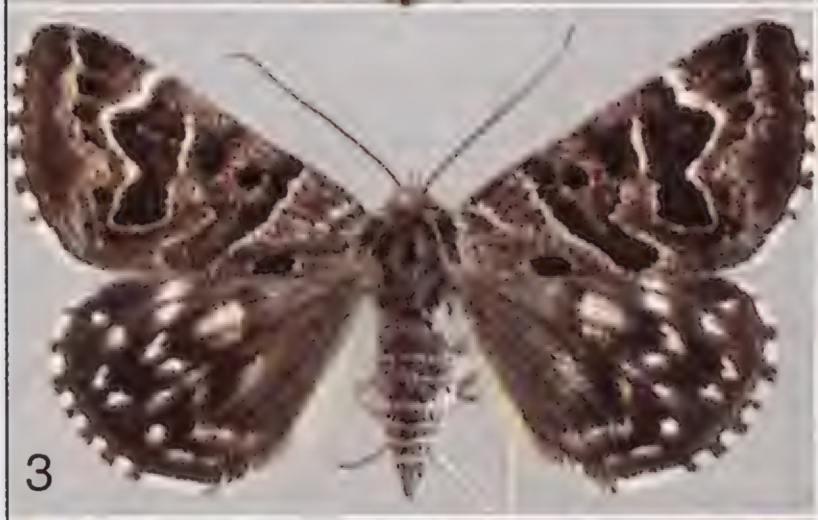
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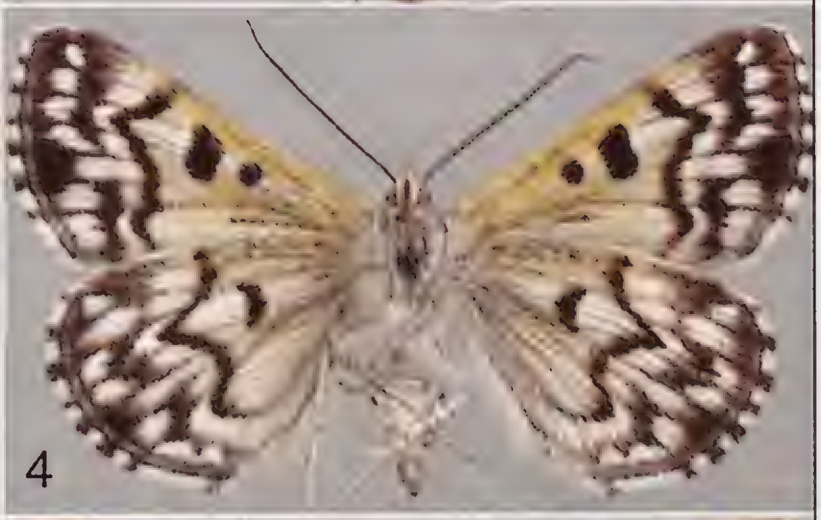
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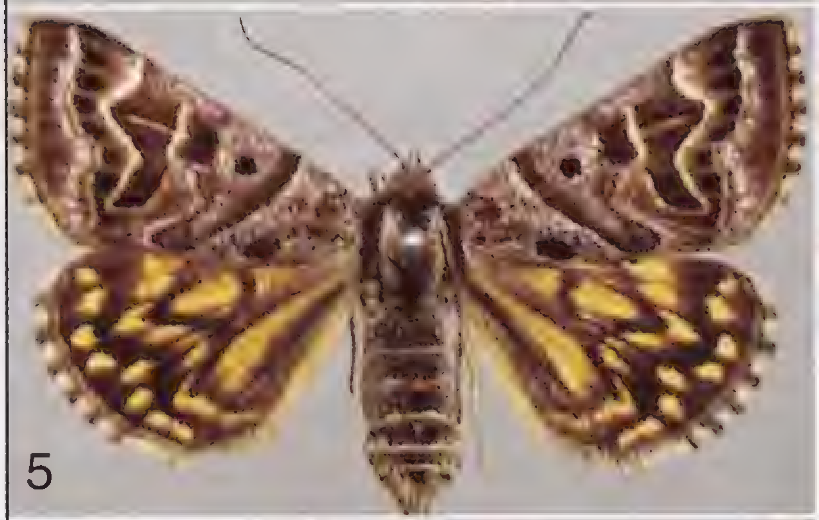
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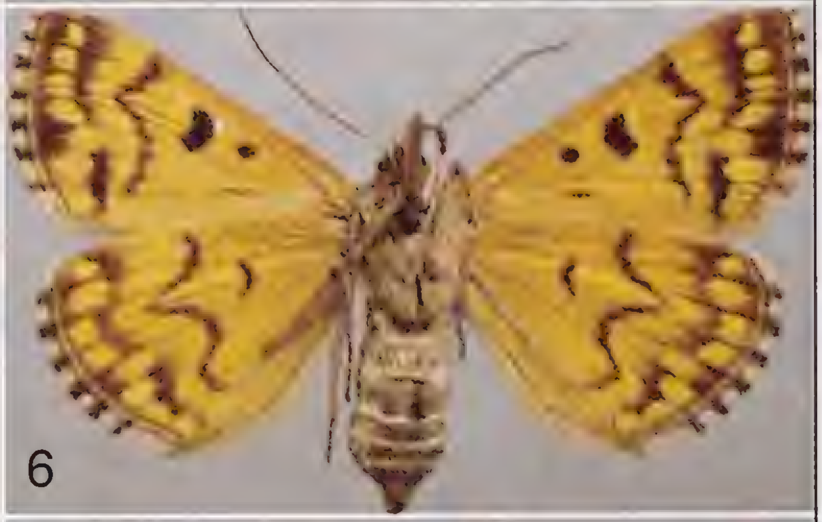
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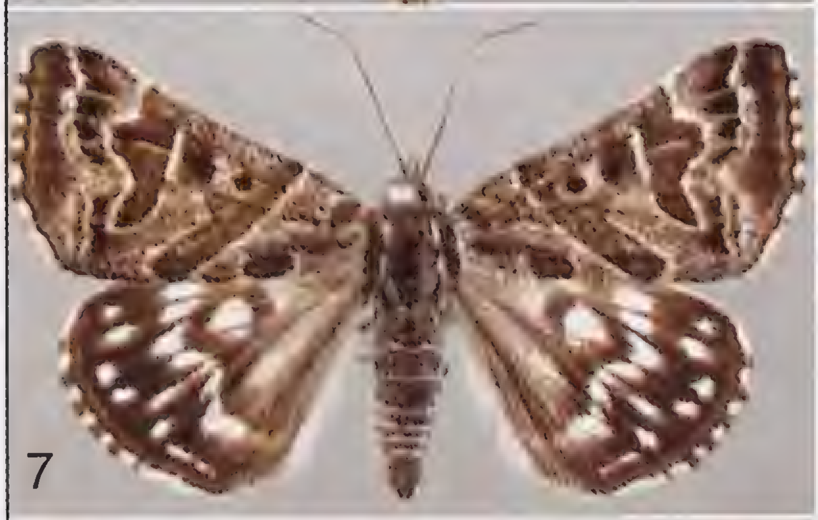
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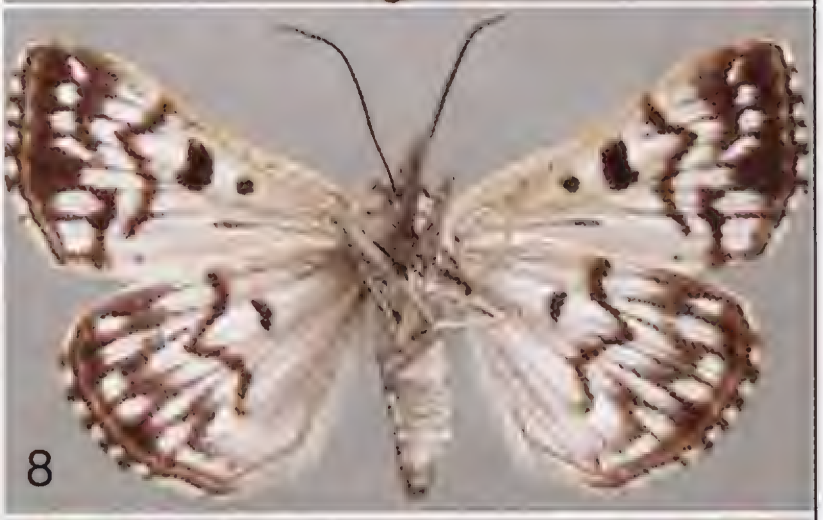
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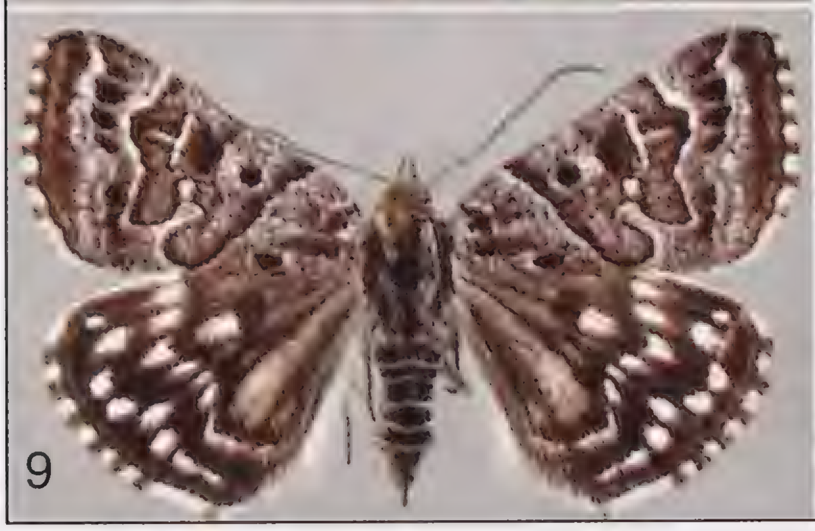
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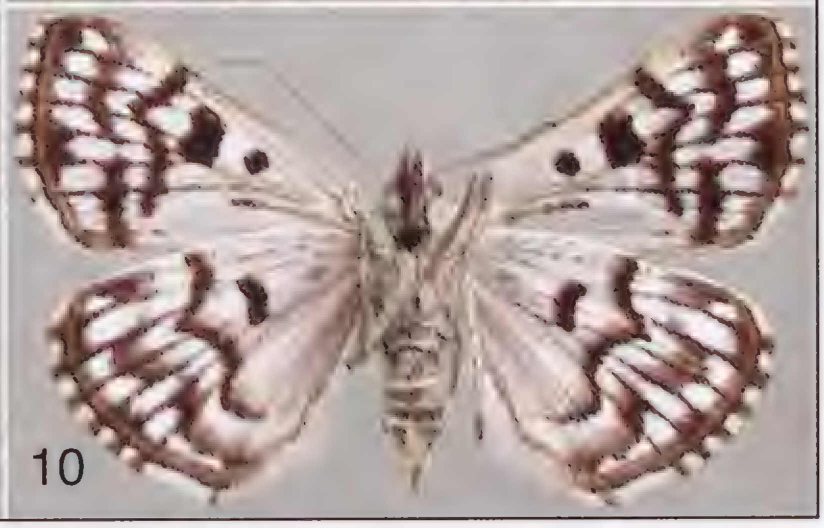
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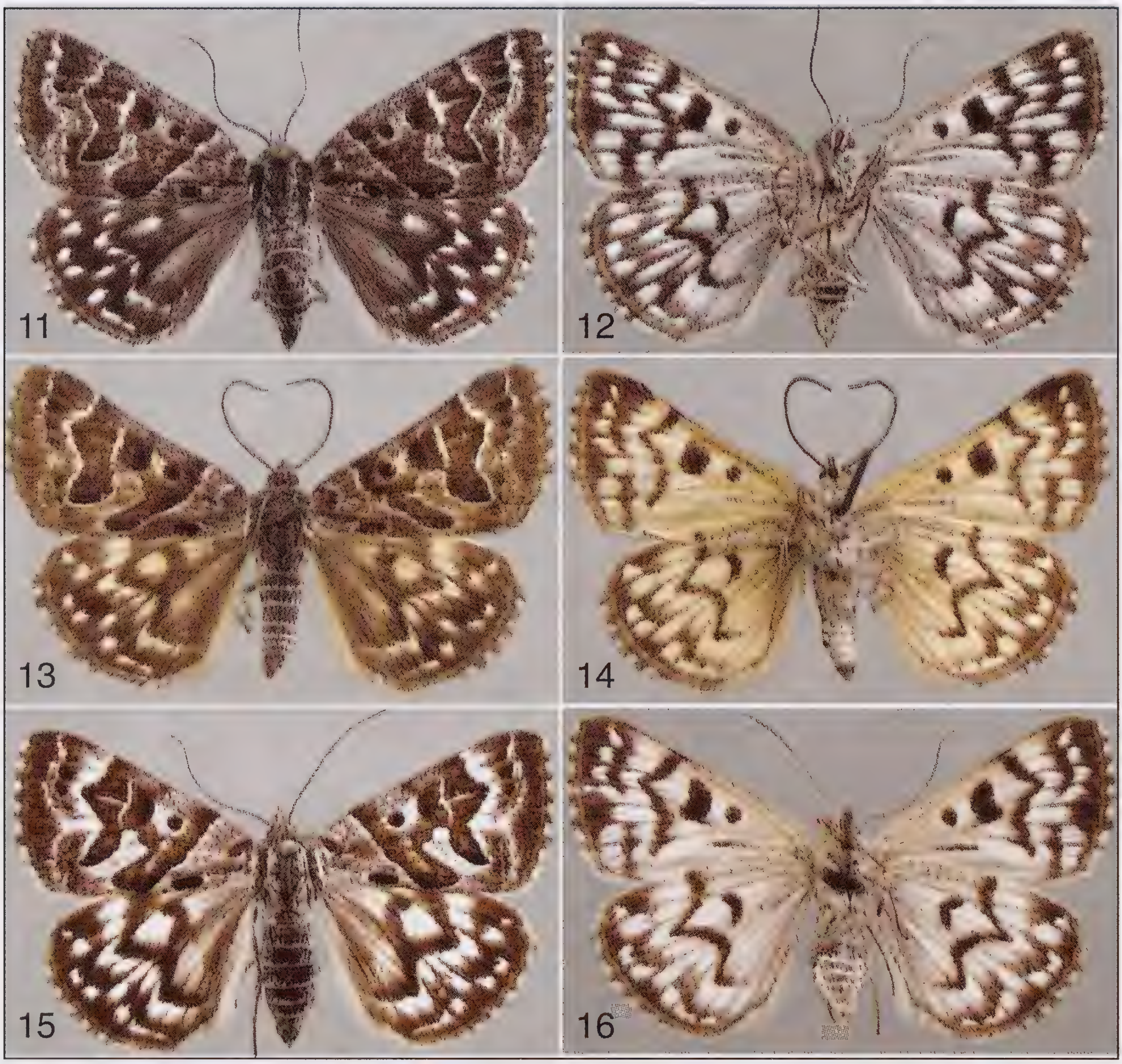

Plate 1. 1. *Callistege mi delplanquei* G. Leraut, **ssp. nov**., female [Holotype], Le Charamel-Bas (near the Col des Fillys, Alpes de Haute-Provence, France), 17.vi.2011 (G. Leraut); 2. Same specimen, underside; 3. *Callistege mi delplanquei* G. Leraut, **ssp. nov**., male [Paratype], Rochefort (Charentes-Maritimes, France), 24.vi.1902 (NMNH, Paris); 4. Same specimen, underside. 5. *Callistege mi delplanquei* G. Leraut, **nov**., female [Paratype], Saint-Barnabé (Coursegoules) (Alpes-Maritimes, France), 18.vi.1933 (NMNH, Paris); 6. Same specimen, underside; 7. *Callistege mi mi* (Clerck, 1759), male f. *ochrea*, Beauchamp (Val-d'Oise, France), 5.vi.1910 (NMNH, Paris); 8. Same specimen, underside; 9. *Callistege mi mi f. illuminata* Warren, 1913, male, Folkestone (Kent, Great-Britain), "30 May" (NMNH, Paris); 10. Same specimen, underside.

Plate 2. 11. *Callistege mi mi* (Clerck, 1759), female, Buno-Bonnevaux (Essonne, France), 12.v.2012 (G. Leraut); 12. Same specimen, underside; 13. *Callistege mi mi f. aurantiaca* Warren, 1913, female, Rennes (Ile-et-Vilaine, France), 1888 (NMNH, Paris); 14. Same specimen, underside; 15. *Callistege mi f. extrema* Bang-Haas, 1912, female, Amur region (NMNH, Paris); 16. Same specimen, underside.

23.v.1909, 5.vi.1910 (*C. Dumont*); *Aisne*. Grand-Sézaucourt, 25.v.1917 (*D. Lucas*); *Aube*. Revigny, v.1948 (*P. Viette*); *Marne*. Fagnières, 27.v.1918 (*D. Lucas*); *Meurthe-et-Moselle*. Liverdun, 13.v.1934 (*J. Bourgogne*); Nancy, 5.vi.1932 (*J. Bourgogne*); *Meuse*. Pagny, 1.vi.1935 (*J. Bourgogne*); *Bas-Rhin*. Ruffach, May 1884 (*Gen. coll.*); *Seine-et-Marne*. Sorques, 4.vi.1903 (*D. Lucas*); Forest of Fontainebleau, 15.v.1905, 28.v.1905, 1.vi.1909, 19.vi.1910 (*Pelletier*), 30.v.1907 (*J. De Joannis*), 11.vi.1906 (*A. David*); Paley-Tesnières, 16.v.1948 (*P. Viette*); Bry, v.1970 *(P. Leraut)*; *Essonne*. Lardy, 30.v.1867; Bouray-sur-Juine, 23.v.1922 (*J. Bourgogne*); Verrières, 16 May (*J. De Joannis*); Milly-la-Forêt, 19.v.2007 (*G. Leraut*); Buno-Bonnevaux, 12.v.2012 (*G. Leraut*); *Yvelines*. Le Vésinet, 23.v.1895 (*D. Lucas*); Saint-Germain-en-Laye, 24.v.1925 (*G. Praviel*); Chevreuse, Forêt de Breteuil, 19th century (*Coll. J. Bourgogne*); *Hauts-de-Seine*. Clamart, 31.v.1908 (*J. Auneau*); *Seine Saint-Denis*. Bondy, 3.v.1882 (*L. De Joannis*); *Seine*. Paris, 19th century (*Lafaury*); Paris, Porte-Dauphine ("Fortifications"), 29.v.1903 (*G. A. Poujade*); *Côtes-d'Armor*, Trégenestre, mid-July 1997 (P. & *G. Leraut*); *Ile-et-Vilaine*. Rennes, 1888 (*L. Demaison*).

Observations

Some specimens of the nominate subspecies can present more or less darkened colour, from cream-white to orange or brown (Warren, 1909-1913), and especially:

Forewing dark-grey brown and hindwing normal: f. *obscura* Lempke, 1947.

Forewings can be darkened and almost without any clear drawings: f. *suffusa* Warren, 1913.

Upperside and underside ground colour yellow-whitish and clearer than normal (markings more extensive): f. *illuminata* Warren, 1913 (Plate 1, Figs 9 & 10).

Hindwing with pure yellow-whitish colour: f. *explanata* Rebel, 1901 (described from Bohemia).

Coloration of the forewings can be most buffish or brown-yellowish, hindwings have a yellow-ochre coloration: f. *ochrea* Tutt, 1899 (Plate 1, Figs 7 & 8), more frequent in Britain (Canterbury, Folkestone) and Ireland (where it locally predominates [Warren, 1909-1913; Goater *et al.*, 2003; Bretherton *et al.*, 1983]).

Some other specimens have pure orange ground coloration: f. *aurantiaca* Warren, 1913 (Plate 2, Figs 13 & 14). For example: Rennes (France), May 1888 [Gen. Coll. NMNH, Paris].

I do not know of such variation in terms of colour in the southern subspecies, except concerning the extent of the white areas, going from f. *illuminata* Warren, 1913 to f. *suffusa* Warren, 1913. Populations from central Europe have been individualised as *ssp. elzei* De Freina, 1976 (more intense yellow-ochre upper- and underside ground colour and larger size), but some authors consider this dubious (Goater, 2003, gave it as a synonym of *C. mi mi*). In Asia Minor and the Amur area, f. *extrema* Bang-Haas, 1912 with exagerated white markings on a predominantly white background (Plate 2, Figs 15 & 16) could be a coherent subspecies.

Acknowledgements

I want to acknowledge Prof. Joël Minet (NMNH, Paris) for his support to my research and for excellent access to French national collections, which he allowed me to study. I also sincerely thank my father Patrice Leraut (NMNH, Paris) who took the photographs illustrating this paper.

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A SECOND IRISH LOCALITY FOR THE SCARAB BUG *THYREOCORIS SCARABAEOIDES* (L.) (HEM.: THYREOCORIDAE)

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Abstract

The scarab bug *Thyreocoris scarabaeoides* (L.) was previously only known in Ireland from the Ballyteige Burrow, Co. Wexford where it was taken in 1932 and 1934. A previously unreported specimen was discovered in the National Museum of Ireland. The new record greatly extends the known distribution of the species in south-east Ireland.

Key words *Thyreocoris scarabaeoides,* Ireland, distribution, Heteroptera.

Introduction

A total of eighteen species of shieldbug (Acanthosomatidae, Cydnidae, Pentatomidae, Scutelleridae and Thyreocoridae) are listed from Ireland (O'Connor & Nelson 2012). Two of these are only known as imports *viz. Nezara viridula* L. and *Eurydema ornata* (L.). Of the remaining species, two are very rare and not recorded for 80-90 years. The forget-me-not bug *Sehirus luctuosus* Mulsant & Rey (Hem.: Cydnidae) was reported from two localities in Co. Kildare and Co. Kilkenny in 1925-1926 (Halbert 1935). The scarab bug *Thyreocoris scarabaeoides* (L.) is even rarer. It is a warmth loving species, which can burrow into sandy or fine-crumbed substrates and is associated with violets *Viola* spp. As a result, the bug requires bare ground, or at least very sparse vegetation, in order to maintain its temperature and to provide opportunities for burrowing in adverse weather conditions. In consequence, it mostly occurs where violets grow on disturbed ground, for example that created by trampling on slopes or where rabbit grazing has reduced the plants to tight clumps amongst very low sparse vegetation. In Britain, it has been recorded in many coastal and a few inland counties in England and Wales, being found on chalk downs and sand dunes (Southwood & Leston 1959, Kirby 1992).

Previous record

T. scarabaeoides was discovered at the Ballyteige Burrow on the Wexford coast on 14 May 1932 by A. W. Stelfox. Subsequently, J. N. Halbert and Stelfox revisited the Burrow on 19 May 1934 and refound the shieldbug at the same site. It occurred chiefly in one sun-baked hollow where there was a close growth of ground moss among which the insects tried to hide on disturbance (Halbert, 1935). There have been no further records. The Ballyteige Burrow is now a nature reserve and consists of a 9km long shingle spit running north-west from the coastal village of Kilmore Quay. The site is of international importance because of its range of physical features such as sand dunes, dune slacks, mudflats and salt marshes. Fixed dunes occupy the central ridge of the Burrow, where they are well developed and botanically species-rich. The open warm conditions of the sand dunes offer a perfect environment for a wide variety of invertebrates (*www.npws.ie/naturereserves/wexford/,* accessed 17 December 2012).

New record

The National Biodiversity Data Centre has produced a new guide to Irish shieldbugs (Cotton, Nelson & FitzPatrick, 2012). This is a small guide, printed on plastic, designed to fit in the hand and for use in the field. It is illustrated and contains data on distribution, abundance, habitat, identification tips and similar species. After being given a copy, the senior author was reminded that he had seen a previously unreported specimen of *T. scarabaeoides* while curating the Hemiptera collection in the National Museum of Ireland.

The specimen was taken by Halbert at Curracloe, Co. Wexford, in June 1936 and was found after the publication of his 1935 paper. It was contained in a store-box which was received by the Museum after Halbert's death in 1948. Voucher specimens from the Ballyteige site were beside it in the box. All were labelled in Halbert's hand and are now incorporated into the main collection.

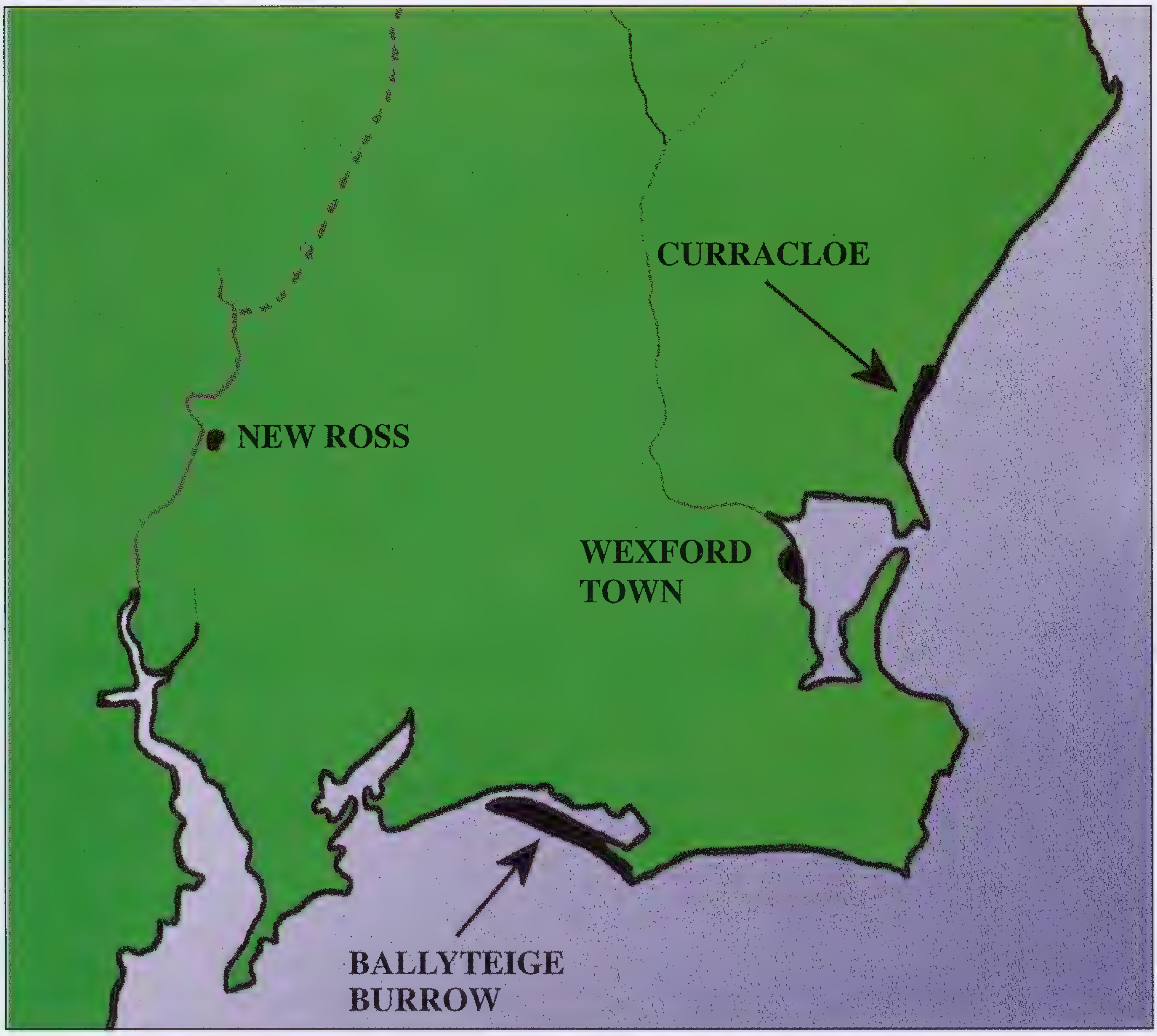

Fig. 1. Distribution of *Thyreocoris scarabaeoides* in south-east Ireland.

Curracloe represents a significant extension in the range of *T. scarabaeoides* (Fig. 1). The area is just north of the town of Wexford and is some 30km north-east of the Ballyteige Burrow. Curracloe beach is about 9km long and backed by sand dunes with marshes and lagoons. The locality has a rich flora. It also has a very diverse invertebtate fauna and recently a new species of microwasp was discovered there (Buhl & O'Connor, 2012). Since parts of the sand dunes have tracks with areas trampled by people going swimming from the nearby beach, there is plenty of suitable habitat for *T. scarabaeoides*.

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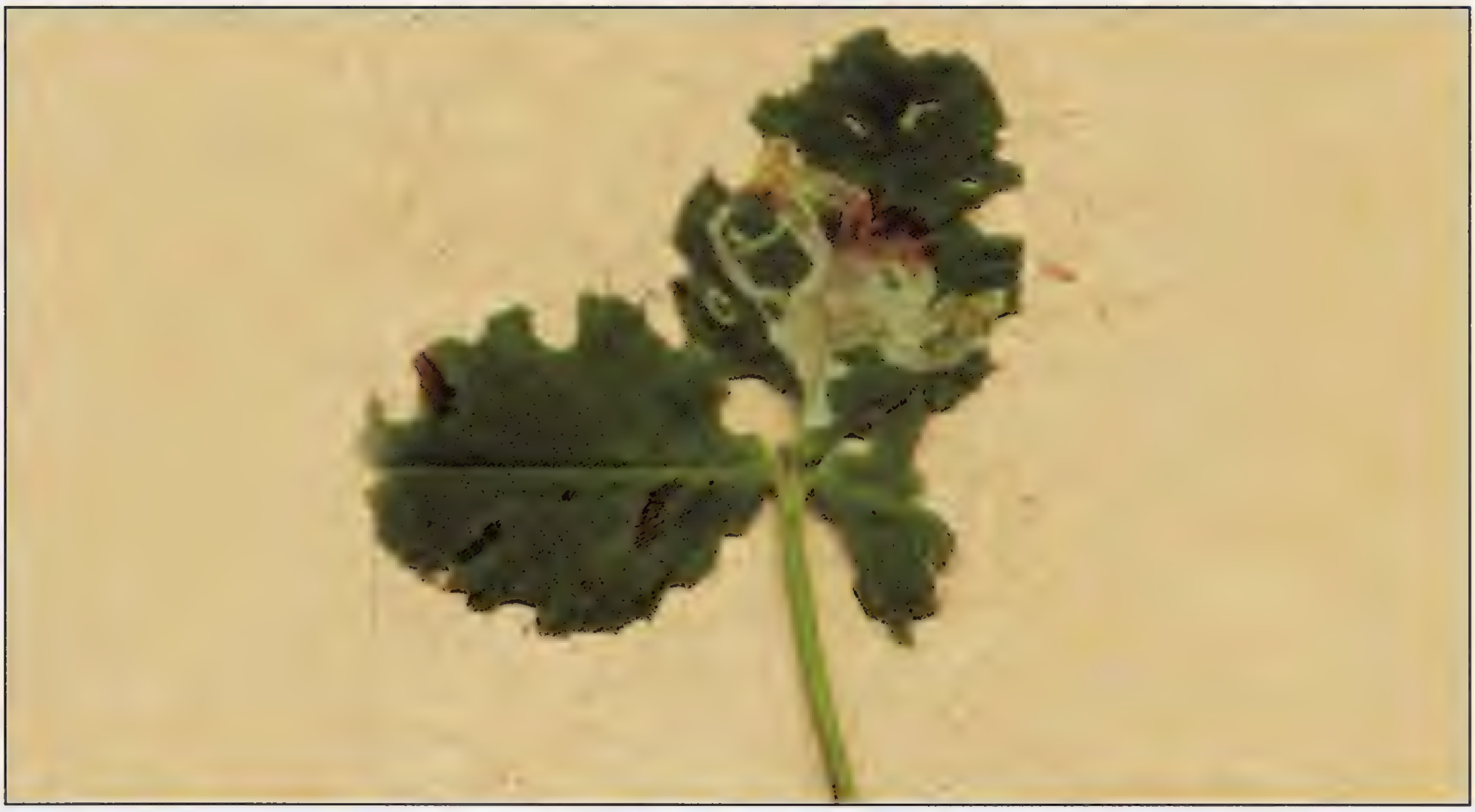
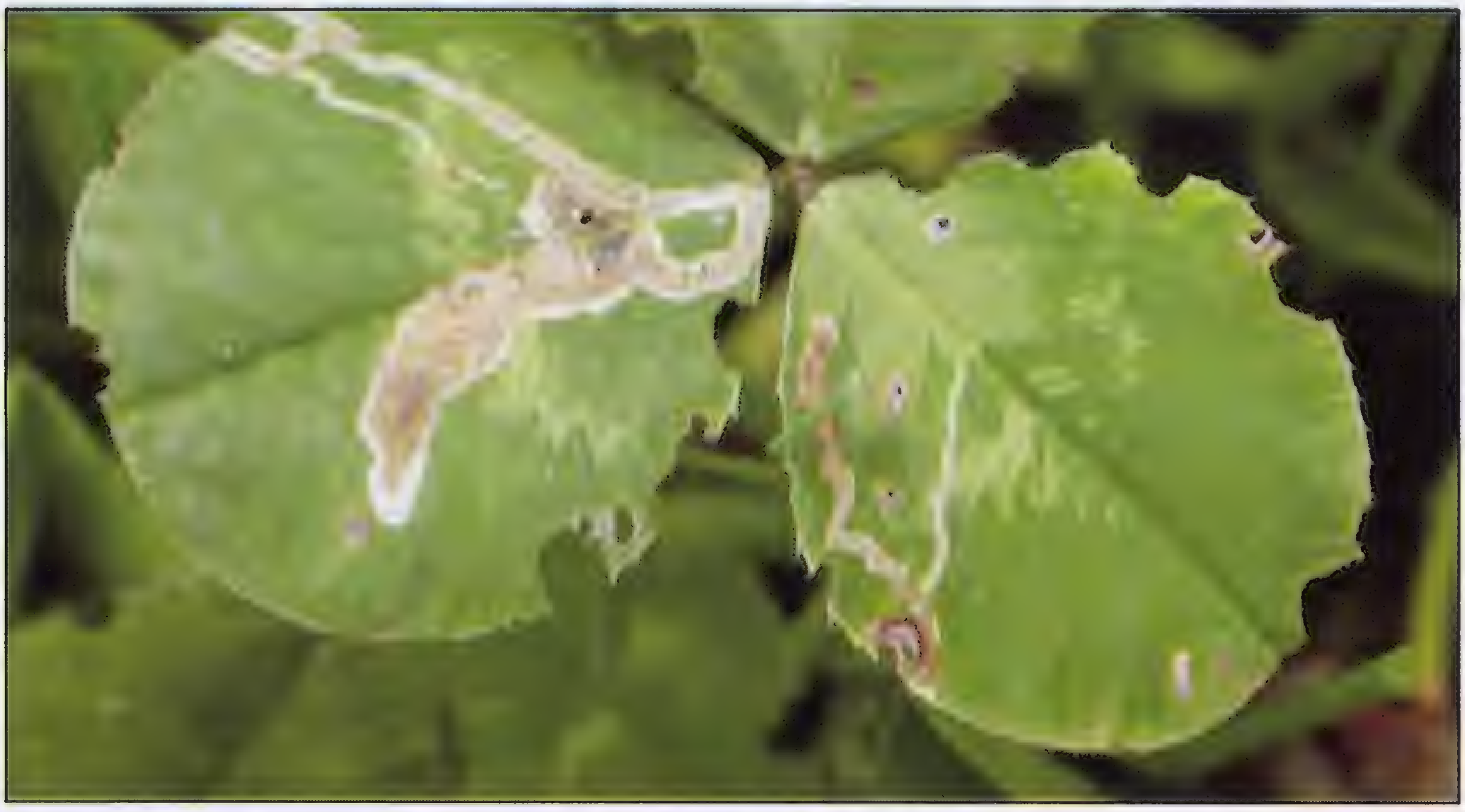
Trifolium pratense – a new host plant for *Agromyza frontella* (Rondani) (Dip.: Agromyzidae)

On 4 September 2011, MB found an unknown mine on Red Clover *Trifolium pratense* at Maulden Wood, Bedfordshire (VC 30), whilst looking for the mines of the micro-moth *Parectopa ononidis* (Zell.) (Lep.: Gracillariidae) which were also present. Andy Banthorpe scanned the mine and posted the photo on the UK Leaf miners Yahoo e-mail group. Colin Plant replied that it might be *A. frontella*, as he was aware that RE had recently found a similar example in Downham Market, West Norfolk (VC 28). By pure coincidence, this second discovery was also made on 4 September 2011, when RE noticed that the clover leaves on an unmown patch of grass in his lawn had been mined by *A. frontella*. Believing it to be a new host plant record, RE had informed Brian Pitkin and Colin Plant, so that the hostplant list of British leaf mining insects could be updated (see *http://www. leafmines.co.uk/html/plants. htm*). The identification of the Bedfordshire mines was confirmed by Brian Pitkin from the scans, which were e-mailed to him.

The leaf mines of *Agromyza frontella* are relatively distinctive, in that an initial gallery is formed which then extends across the leaf before turning back and developing into a blotch (Plate 1). In Britain, this agromyzid fly has previously been recorded on *Melilotus* and *Medicago*.





We believe this is the first time that *A. frontella* has been recorded on this host plant in Britain, although it has also been recorded on this host and also on *Astragalus onobrychis* in Europe (Leafminers of Europe website at *www.bladmineerders. nl*, accessed 23 February 2013). Interestingly this source states that *A. frontella* is only exceptionally recorded on *Trifolium*. We hope this discovery will encourage others to search for this leaf miner.

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Five additions to the Heteroptera county list from a brownfield site in Oxfordshire

During the spring of 2006, I noticed some excavation works to the north of Goring, Oxfordshire, which seemed to involve the burying of a pipeline along the edge of arable fields, adjacent to the B4009 road. The cleared areas were already rich in a variety of tall, flowering plants, and since such 'brownfield' sites can harbour an interesting collection of insects, I decided to do some collecting. However, given the obvious dangers of such construction sites, particularly when works are in progress, I had to wait until activity had ceased, but before the land had been returned to agriculture. Over the summer, I managed to make two brief visits to the site (O. S. grid reference SU 605829), on 4 July and 14 August. The resulting records did not disappoint, adding five species of Heteroptera to the county list for Watsonian Oxfordshire: the rhopalid bugs *Stictopleurus punctatonervosus* (Goeze), *Stictopleurus abutilon* (Rossi) and *Liorhyssus hyalinus* (Fabricius) and the lygaeid bugs *Nysius senecionis* (Schilling) and *Nysius graminicola* (Kolenati).

Before anyone considers having a commemorative medal struck, I should make clear that there was a considerable amount of ignorance clouding these discoveries. At the time, I was aware of having found only one of these five species (*S. punctatonervosus*), as it was the only insect that keyed-out correctly in Southwood & Leston (1959, *Land and water bugs of the British Isles*, Warne, London), the other four species having been added to the British list since this book was published. An addendum to this text has now been written (Ryan, 2012. *Br. J. Ent. Nat. Hist.* **25**: 205-215) which makes such mistakes easier to avoid.

When I presented my records of *S. punctatonervosus* to the Oxfordshire county recorder, Mr John Campbell, he advised me to check for its congener, and gave some discriminating details. *S. abutilon* was thereby found among my specimens, and it was clear that both species of British *Stictopleurus* Stal could be added to the county list for Watsonian Oxfordshire. These two species were categorised as 'Extinct' by Kirby (1992, *A review of the scarce and threatened Hemiptera of Great Britain. UK Nature Conservation No 2.* Joint Nature Conservation Committee, Peterborough), both species hitherto occurring as rare migrants, last seen in Britain in 1870 (*S. punctatonervosus*) and 1948 (*S. abutilon*) (Dolling, 1978. *Ent. Gaz.*, **29**: 261-264). Within a few years of Kirby's publication, in what must be considered a cruel example of 'commentator's curse', both species of *Stictopleurus* began to appear again in Britain, and became common in many parts of southern England. A glance at the published exhibits in the *British Journal of Entomology and Natural History* (*BJENH*) and in the pages of *Het News* (available online at *www.hetnews.org.uk*), reveals the impressive progress of the bugs' colonisation of southern Britain. In my 2006 recording, I found the bugs at several other sites in Watsonian Oxfordshire (all along field edges near Oxford), and also in the woods of Watsonian Buckinghamshire, which my literature search has revealed are probably first records for this county: *S. abutilon* at Finemere Wood (SP 719217, 24 July); and *S.*

punctatonervosus at Whitecross Green Wood (SP 598147, 19 July) and at Bernwood Forest (SP 623108, 1 August).

My specimens of *L. hyalinus* were mistakenly thought to be *Rhopalus subrufus* (Gmelin), another rhopalid bug, which was common at the brownfield site. It was not until Dr Steve Judd ran an advertisement for records of the species for a paper he was writing (Judd, *Het News*, Autumn 2009, **14**: 4), that I was moved to check my collection, and made the happy discovery of three specimens. The paper (Judd, 2011. *Br. J. Ent. Nat. Hist.* **24**: 227-234) reveals that the bug was, like the *Stictopleurus* spp., a rare migrant to Britain, until the early 1990s. Since then, the insect has been sighted more frequently (in the south-east, and along the west coast, of England). I did not encounter the bug myself anywhere else in 2006.

The two species of *Nysius* Dallas keyed-out in Southwood & Leston (*op. cit.*) to a single species, *Nysius thymi* (Wolff), where they remained until I stumbled across the key of Dolling (*Het News*, Autumn 2003 **2**: 4-5). It was then immediately apparent that my determinations were wrong, and that I had not one but two species, *N. graminicola* and *N. senecionis*. The first British record of *N. graminicola* was in Dorset in 1977 (Allen, 1984. *Entomologist's Record J. Var.* **96**: 66-68), however there have been few other published records since. The second and third records were by Richard Dickson in South Hampshire in 2001 and by John Widgery in Hertfordshire in 2003 (Nau, 2004. *Br. J. Ent. Nat. Hist.* **17**: 182-183). My record adds a fourth vice-county to this list. *N. senecionis* was first found in Britain more recently, in 1992, in East Sussex (Hodge & Porter, 1997. *Br. J. Ent. Nat. Hist.*, **10**: 1-2). As with the *Stictopleurus* spp., and unlike its congener, there have been many more published records of this bug across southern England since its discovery, evident again from the published exhibits in the *BJENH* and the pages of *Het News*. In my 2006 recording, I found the two *Nysius* spp. at other sites in Watsonian Oxfordshire, in company with the *Stictopleurus* spp., along field edges near Oxford.

Since 2006, four of these five bugs have been difficult to find, the exception being *S. punctatonervosus*, which has turned up regularly, albeit as occasional singletons. In the next few years I found it six times in Watsonian Oxfordshire and twice in Watsonian Buckinghamshire; and also at Moor Copse, Berkshire (SU638739, 2 August 2009) and Fisherlane Wood, Surrey (TQ 981325, 19 August 2009). In contrast, I found *S. abutilon* only once in Watsonian Oxfordshire (waste ground, Oxford, SP 524047, 8 May 2007); and *L. hyalinus*, *N. graminicola* and *N. senecionis* were not found at all. However, I did record the last species over the border, in a derelict, sandy field near Hitchcopse Pit, Watsonian Berkshire (SU 452999, 1 August 2007).

In 2011, I made a determined effort to find these species again in Watsonian Oxfordshire, revisiting my 2006 sites, and other likely places. Predictably, this was very successful in regard to *S. punctatonervosus*, making many captures at several sites, but I drew a blank with the other four species. However, outside Watsonian Oxfordshire, I recorded *N. senecionis* and *S. abutilon* at the derelict field near Hitchcopse Pit (28 July and 28 September, respectively).

It is tempting to link the arrival and prompt disappearance of four of the five above species in Oxfordshire to the abrupt change in the local climate in 2006/2007. 2006 was the last of the hot summers in Oxfordshire (and elsewhere) that had become frequent from the early 1990s. Since then, the summers have been cooler and wetter, with 2012 being one of the wettest on record.

Images of the species mentioned above can be found on the British Bugs website (*www.britishbugs.org.uk*) or on Flickr (*www.flickr.com*). I am grateful to Mr Campbell for his assistance.

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Pempeliella alibotuschella (Dren.) (Lep.: Pyralidae) – supplementary data

In the recent publication by us (*Antea* 19-28), we listed the three known localities, all in southern Bulgaria, for the little-known *Pempeliella alibotuschella* and made the statement that "As far as we are aware, no other material representing *Pempeliella alibotuschella* (Drenowski) exists in any other collection". Readers will form their own opinion on whether this was a foolish statement or a cunning challenge, but either way we are now able to report further data. Shortly after publication, Ole Karsholt contacted CWP to report that using our illustrations and descriptions he had discovered within the collections in the Zoological Museum of the University of Copenhagen (ZMUC) no less than six specimens, all male, collected in Bulgaria by Barry Goater at Studen Kladenetz in the Rhodopes Mountains, on 18.ix.1995. A few weeks later, Ole contacted us again to report that yet another specimen had been located in the ZMUC collections – this one from quite a bit further south in Greece, at Evro, 35km north of Alexandropolis, Kirku, altitude 500m, 20.viii.1985, leg. M. Fibiger.

These new data consolidate the distribution of the species in the extreme south of Bulgaria and suggests that it is likely to be under-recorded throughout the Rhodopes Mountains that affect both southern Bulgarian and north-eastern Greece. A glance at any map that depicts mountain ranges also suggests that this allegedly rare moth might also usefully be looked for in eastern Macedonia and perhaps even the extreme south-east corner of Serbia.

We are grateful to Ole Karsholt for his efforts in locating and reporting the additional specimens and to both him and Barry Goater for permission to publish these data.

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Scythris empetrella Karsholt & Nielsen (Lep.: Scythrididae) larvae in August

Scythris empetrella Karsholt & Nielsen is a rare species in the British Isles. It has recently been accorded pRDB2 status by Davis (2012. *A Review of the Status of Microlepidoptera in Britain*), denoting that it is known from between six – ten 10km squares. The larva lives in a sand-covered tube and feeds on Heather *Calluna vulgaris*, Bell Heather *Erica cinerea* and, at Findhorn Dunes near Forres, Moray, Scotland, on Crowberry *Empetrum nigrum,* growing on sandy soils (Plate 1). The adult occurs from June to July.

In the British Isles the larval period is reported as being from April to May (Bengtsson, 2002. *The Moths and Butterflies of Great Britain and Ireland* volume 4 (1), pages 288-289). On 14 August 2012, at Findhorn Dunes, we found a considerable number of larval tubes attached to Heather and Bell Heather and several attached to Crowberry. Careful examination of several of these showed that they contained larvae. A few were collected (Plate 2), but no moths resulted; this, unfortunately, was not entirely unexpected as *Scythris empetrella* can be difficult to rear.

Plate 1. Crowberry *Empetrum nigrum* growing on sand at Findhorn Dunes, Moray, 19.ix.2012.

The question remains as to whether in the wild the August larvae would have remained in that stage until the following April/May or whether the species is bivoltine there with moths emerging in the autumn. The latter is not entirely impossible in view of the fact that adults of two other *Scythris* species, hitherto regarded as univoltine in the British Isles, have been recorded in the autumn in the last few years.

Since 2003 *S. crassiuscula* (Herrich-Schäffer) has been observed between 19 May and 29 September in the Cotswolds, Gloucestershire, by Meredith (2012.

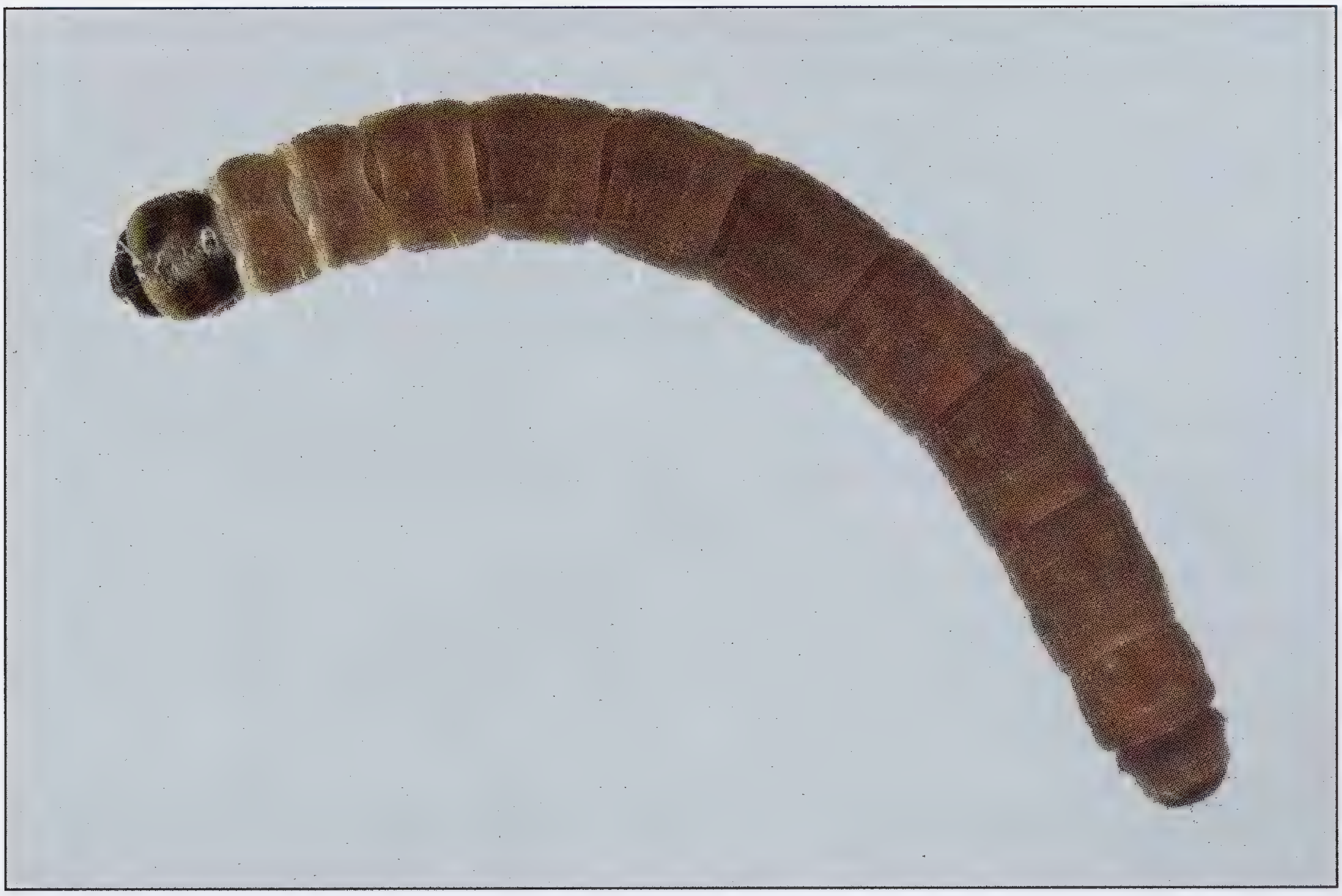

Plate 2. Larva of *Scythris empetrella* Karsholt & Nielsen. Findhorn Dunes, Moray, 19.ix.2012.

Entomologist's Rec. J. Var. **124**: 167-169), with 11 records from late August to late September in the years 2004, 2006, 2009, 2010 and 2011. Meredith argues convincingly that the species is bivoltine, at least in the Cotswolds.

S. potentillella (Zeller) was first noted at Croxley Common Moor, Hertfordshire, in September 2005 and continued until at least 12 October that year. The next year it was seen on 10 June and 1 July as well as on 23 September (Murray, 2007. *Entomologist's Rec. J. Var.* **119**: 71).

Further investigations are needed to discover whether *S. empetrella* occurs as an adult at Findhorn Dunes in the autumn or if the larval stage lasts much longer than previously believed.

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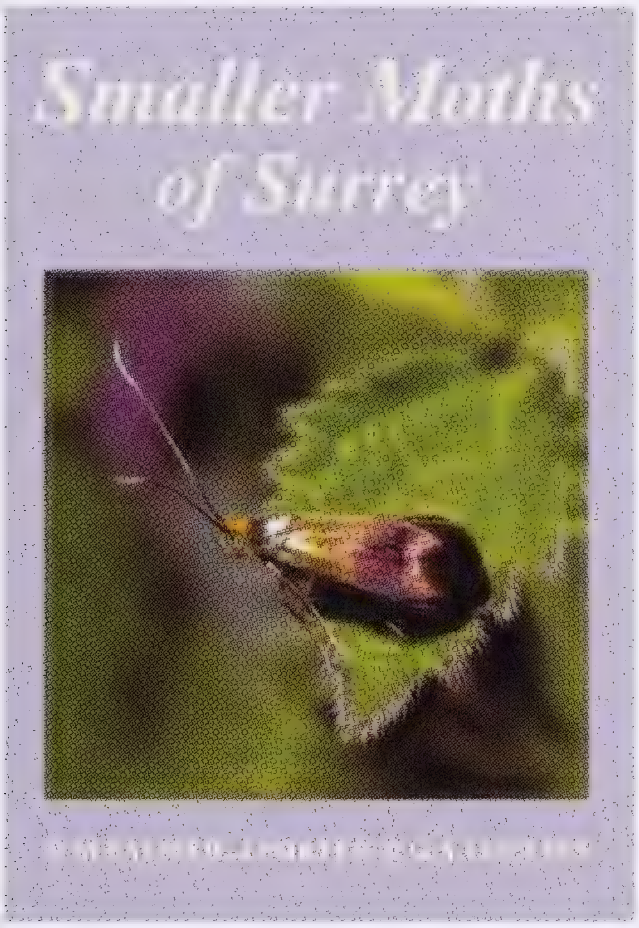
BOOK REVIEW

Smaller Moths of Surrey by **R. M. Palmer, J. Porter & G. A. Collins.** 544pp., 216 x 155 mm., hardbound, ISBN: 978 0 9556188 3 3. Published by Surrey Wildlife Trust, 2012. £28 plus £7.50 UK postage and packaging, available from the publisher at School Lane, Pirbright, GU24 0JN or on line at *www.surreywildlifegifts.org.uk/collections/atlas-series.*



This is the thirteenth in this series of excellent publications from the Surrey Wildlife Trust, each covering a different taxonomic area (all but one of which were invertebrate groups). The larger moths were covered as long ago as 1997 and so the present work, completing the picture, is much welcomed. The three authors are amongst our foremost moth experts and so this reviewer expects that the work will attain the same high standard that has been exhibited throughout the series; he has not been disappointed.

The work follows the standard layout for the series; sequence and nomenclature appear to adhere to the current British checklist. The entry for each individual species includes a brief summary of status in the county followed by a paragraph of text and accompanied by a distribution map that is based on tetrads (2 km x 2 km map squares). The maps rightly make no distinction between reports of adults and of larvae and map only those sightings made since 1986; this means that they are not cluttered with various different symbols and could be printed in monochrome rather than colour. Species not recorded since 1986 are, consequently, not mapped.

A Table lists the UK Biodiversity Action Plan Priority Species recorded in Surrey; these number 11 (an additional two were recorded in error), of which five are reported as extinct in the county and three are known from only a single site. Given that the report of one of the remaining three requires confirmation that leaves just two that are known from multiple sites. It is tempting to assume that this must surely reflect the modern encroachment of south-west London into what is one of the most entomologically diverse counties of Britain, but examination of each of the individual species accounts does not provide any evidence to support this. Indeed, of the two species that are recorded from more than one site *Nemophora fasciella* is probably benefitting from urbanisation, which evidently creates habitat suitable for its foodplant (*Ballota nigra*) to thrive.

The level of coverage is presented via two coloured maps in Plate 2. These, wisely, separate the moths into the more frequently reported leaf-mining species and "the rest"; there is at least one micro record from all except for three map tetrads. However, considering only the non-miners, it is evident that at least 90% of the map tetrads in the county have records of less than 50 species, with only around 4% recording more than 200 species. Given that the *Preface* informs that "more than 1130 species of micromoth have been recorded in Surrey" it is implicit that the vast majority are either extremely local or extremely under-recorded. However, this is not to be interpreted as criticism. Indeed, the cynic in me knows well that one of the best ways to stimulate the submission of data is to publish works recording its absence; it also stimulates people to go and look!

A single section of colour plates occupies 32 pages and depicts a good cross section of moths, including larvae and leaf mines as well as adults. The work is dedicated to John Langmaid, who will be known, at least by name, to anyone with more than just a passing interest in British micro-moths. This journal gets several mentions in the *References* section, which is always pleasing.

Criticism of this book is difficult. There are no chapters dedicated to habitat, and conservation gets only the briefest of mentions – but then that is a consequence of the overall format of books in this series and so is scarcely the fault of the authors. All in all, another very useful addition to the biodiversity inventory of Surrey and, as I have said in reviews of earlier volumes in this series, an inspiration to others in different counties.

Colin W. Plant

Also received...

Handbooks for the Identification of British Insects*, *volume 1, part 17, The adult Trichoptera (caddisflies) of Britain and Ireland by **Peter Barnard & Emma Ross** (2012. ISBN: 978 0 901546 94 4) and **Volume 5, part 17d,** ***True Weevils. Part 3: Curculioninae, Baridinae & Orobitidinae)*** by **M. G. Morris** (2012. ISBN: 978 0 901546 95 1). Published by the Field Studies Council for the Royal Entomological Society. £29.50 (caddisflies) and £25 (weevils), presumably plus postage and packaging, available from FSC at Unit C1, Stafford Park 15, Telford, TF3 3BB or on-line at *http://www.field-studies-council.org/publications/res-handbooks.aspx*.

These two recent additions to the indispensable series of *Handbooks for the Identification of British Insects* are very much-needed. Mike Morris' work is the third volume covering British "true weevils" and completes coverage of the group; caddis have been, until now, difficult for anyone other than a specialist with access to reference material. Both books follow a modern format and are far easier to use than the old numbers in this series; both are thoroughly commended to all entomologists.

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The first version of the "*Photographic guide to Macro-moths of the Algarve*" can be downloaded for free, from ***http://www.arocha.org/pt-en/about/what/g1/moth.html***. The document is in pdf format and can be printed easily if you'd like to have a hard copy of your own. Of the 501 macro moths that are currently known from the Algarve in Portugal, there are photographs of 492. I would like to thank all photographers that allowed me to use their images. I hope that this guide might be an encouragement for all of those that like to discover the beauty of moths, in order that we can learn more about their fascinating ecology, their distribution and the possible threats in Portugal.

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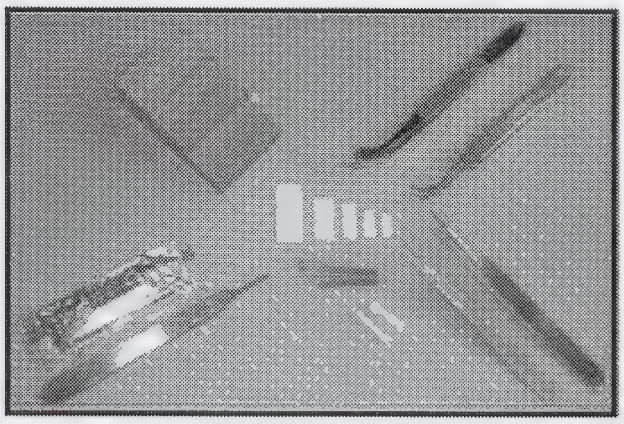

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Printed in England by
Cravitz Printing Company Limited, 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277 224610

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E mologist's Record

and Journal of Variation

Volume 125 • Part 3 May/June 2013

Edited by C. W. Plant

www.entrecord.com

A publication of The Amateur
Entomologists' Society

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION
World List abbreviation: *Entomologist's Rec. J. Var.*

http://www.entrecord.com

Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

Annual subscription for individual subscribers for 2013 is £25.
For institutional and overseas rates please visit the website at www.entrecord.com

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Please follow the format in this issue; if in doubt, ask the Editor. We positively encourage the use of colour photographs of insects and their habitats but their inclusion must enhance the text or serve some other useful purpose. We encourage the use of colour in the interpretation of graphs, charts etc. All images must be sent as individual separate files; please send high resolution files – do not reduce file size for ease of e-mailing. Images embedded (pasted into) word processor files cannot be used.

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The Entomologist's record is now printed in full colour, enabling us to accept a wider range of illustrative and interpretative material. This development has been made possible by a generous bequest by the late Andy Callow.

Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 2010

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Abstract

Formally accepted records of immigrant Lepidoptera occurring in the British Isles during the year 2010 are listed and discussed. For less frequently encountered species, full information is given in Annex 1, presented in vice-county order, the individual localities then listed alphabetically for each VC. For the more regular/frequent immigrant species recorded during the season, annual summaries and a selection of the more important records are presented in Annex 2.

Introduction

2010 was one of the quieter seasons for insect immigration and featured generally low numbers of immigrant species throughout. Indeed the only two Lepidoptera species listed in the following report as new to Britain are *Thera vetustata* (D. & S.), a retrospectively identified record from 2006, and *Achaea janata* (L.), an adventive species that was found by the recorder in the pupal stage in his local supermarket! The year was not, however, without a few naturally-occurring immigrant highlights, most significantly the second and third UK records of *Cydia inquinatana* (Hb.) from VC25, the second UK record of *Stegania cararia* (Hb.) from VC11, and the second and third records of *Acronicta strigosa* (D. & S.) as an immigrant in VC13.

The most significant arrival of the season involved *Itame brunneata* (Thunb.), with immigrants occurring in southern England for the third successive season, apparently due to population explosions in the Netherlands and elsewhere in mainland Europe (see Higgott & Davey, 2010; Pratt, 2012). The 2010 arrival was the largest of these, resulting in a summary being included in Annex 2 in preference to a long catalogue of individual records being listed in Annex 1.

Another notable single-species arrival that took place during 2010 involved the largest recorded influx of *Lacanobia splendens* (Hb.), this including a record from as far north as the Shetlands. There was a degree of speculation that some of the records from the south-east were the result of local breeding but the widespread nature and geographical distribution of the influx, and corrolation of occurrence times were indicative of an arrival from continental Europe.

Additional immigrant records of note during the season included examples of *Etiella zinckenella* (Treits.), *Diasemia reticularis* (L.), *Dendrolimus pini* (L.), *Chiasmia aestimaria* (Hb.), and *Ctenoplusia limbirena* (Guen.); a single night influx of the immigrant pyrale *Uresiphita gilvata* (Fab.) into south-west Ireland was unprecedented.

Guidelines for contributors

To avoid unnecessary delays in publishing future reports, it would help greatly if contributors adhere to the following guidelines: data should include the vice-county, recorder, stage (if not an adult), number observed, and the date. For light-trap records list the date the trap was switched on, not the date it was inspected. This is a universally accepted convention to avoid the possible duplication of records.

There remains a noticeable shortage of records from more northern and inland sites submitted for the current report. Records of migrant species from such sites would be gratefully received for future reports, and the regional summaries & categories of listed records for Annex 2 species have been introduced to take account of records of this nature. County recorders not already submitting migrant data for these annual reports are keenly requested to do so, even if their respective counties are not favourably positioned to receive arrivals. Migrant records from such northern & inland sites are often more significant in showing the range and scale of immigrations of species routinely recorded from more southern, coastal locations.

It should be noted that statistics relating to the total number and distribution of **all** records received/sourced of nocturnal Annex 2 species are now given, so please continue to submit records of all these species. It must also be stressed that it has become impossible to monitor the growing number of e-mail/website migrant forums and the posting of records on such sites will not necessarily result in their inclusion in future reports. It is therefore essential that migrant records are submitted to the relevant county recorder, published within the entomological press or sent directly to the report author.

County recorders, or those submitting large volumes of data are asked to sort their data by vice-county, species name, and then by date order. Contributions are particularly welcome in electronic format (pref. MS Excel) to the author at the e-mail address given at the start of the report. Paper copies may also be submitted to the postal address over the page. Should readers be aware of any significant omissions or errors in this or earlier reports, these would be welcomed for inclusion in future appendices. Contributors are also requested to provide the middle initial(s) of recorders wherever possible to assist with the accreditation of records.

Recent reports have been extended to include the more interesting records of adventives as these often help to establish the origin of other records or colonisations of the respective or associated species. Extralimital records of resident species that may be the result of immigration or internal vagrancy are also included in reports. Records of this nature are therefore also welcome for inclusion in future reports.

The following abbreviations have been adopted since the 2002 report. These remain unaltered and exclude any variation in status found on the Channel Islands (VC**113**). However the categorisation of individual species is reviewed annually in the light of any recent/ongoing changes in status. A brief introductory statement has also been added to the accounts for a number of listed resident species in order to clarify the type of record that is included in these reports.

Abbreviations

[I] - Primary immigrant or the direct progeny of a primary immigrant. Where this is the only category given, believed to relate to a species that is unable to maintain a viable, self-sustaining resident population through a typical British winter.

[In] – Introduction or importation. A species artificially introduced into Britain by man. Can include synanthropic species that are only able to sustain breeding populations in Britain under conditions that do not occur naturally.

[MC] – Migrant Colonist. An immigrant species that has established extant, short-term breeding populations in Britain, but these believed to have been present for fewer than ten consecutive years.

[R] – Resident. A species with an established breeding population in Britain, this having been present for a minimum of ten successive years.

[FR] – Former Resident. A species that was formerly an established resident but has no known resident populations in Britain at the time of writing.

[V] – Vagrant/wanderer. A species recorded well away from its known British breeding range, but the record most likely to have been the result of internal, domestic dispersal.

Channel Islands (VC**113**) records are no longer included in the main species accounts due to their southerly position, locating them outside the biogeographical area of Great Britain and Ireland. This often leads to differing statuses of listed species within VC**113** and occurrence patterns of immigrant species that are not comparable with records in Great Britain and Ireland. However, records of recent colonists and rare immigrants in VC**113** can be precursors of arrivals in Britain, so significant VC**113** records are given in Annex 3.

ANNEX 1: RECORDS OF SCARCER SPECIES IN 2010

TINEIDAE

0277 ***Oinophila v-flava* (Haw.) [R][In][I?]**
E. KENT [**15**] Pegwell, 29.6, 28.8 (Solly *et al.*, 2011).

YPONOMEUTIDAE

0424 ***Yponomeuta evonymella* (L.) [R][I/V]**
Coastal records/influxes that may relate to immigrants.
CAITHNESS [**109**] Dunbeath Strath, 15.8, first VC record (N. Money per MRY, in Langmaid & Young, 2011).
WATERFORD [**H6**] Tramore, 20.7, 27.7 (TB).

0428 ***Yponomeuta rorrella* (Hb.) [R][V/I]**
Coastal records of possible immigrant examples.
E. KENT [**15**] Isle of Thanet, July (9), August (4) (Solly *et al.*, 2011). E. SUFFOLK [**25**] Dunwich Heath, July (30), August (2) (Moore & Deans, 2011); Minsmere, July (40+), August (4) (Harvey & Higgott, 2011). E. NORFOLK [**27**] Eccles-on-sea, July (44), August (18) (Bowman, 2011). S.E. YORKSHIRE [**61**] Spurn, July (11), August (7) (Spence, 2011). S. NORTHUMBERLAND [**67**] Tynemouth, 24.7, 16.8 (Tams, 2011). FIFESHIRE [**85**] Anstruther, 28.7, new to Scotland, (Smout, 2011).

0429 ***Yponomeuta irrorrella* (Hb.) [R][V/I]**
Coastal/extralimital records of possible immigrant examples.
N. ESSEX [**19**] Braintree, 9.7, first VC record (SR).

0449c *Prays oleae* (Bernard) [In]

S. HAMPSHIRE [**11**] Romsey, 25.4, larval mines on *Olea europaea* in an arboretum (adults bred) (BE, in Langmaid & Young, 2011); Southsea, 26.8, adult to light (JRL, in Langmaid & Young, 2011); first VC records. MONMOUTHSHIRE [**35**] Bryngwyn, 3.4, larval mines on *Olea europaea* in a garden centre (adults bred), new to Wales (JRL, in Langmaid & Young, 2011).

OECOPHORIDAE

0642a *Metalampra italica* Baldizzone [I/In/MC?]

E. SUFFOLK [**25**] Bramfield, 22.8, first VC record (RMH per JBH, in Langmaid & Young, 2011).

ETHMIIDAE

0718 *Ethmia dodecea* (Haw.) [R][I/V]

Coastal/extralimital records of possible immigrant examples.
N. ESSEX [**19**] St Osyth, 6.7 (SR).

0719 *Ethmia quadrillella* (Goeze) [R][I][V]

Coastal records away from known populations.
E. KENT [**15**] St Margaret's, 3.7, 23.7 (Jarman & Morris, 2011).

TORTRICIDAE

1215 *Thaumatotibia leucotreta* (Meyr.) [In]

N. HAMPSHIRE [**12**] Kempshott, 24.6, adult to light (GAH per TJN).

1263 *Cydia inquinatana* (Hb.) [I]

E. SUFFOLK [**25**] Bawdsey, 28.6, 30.6, second and third confirmed British record (Deans, 2011).

1262 *Cydia amplana* (Hb.) [I]

Total no. reported: 26

By vice-county: 9 (1), **10** (1), **11** (18), **15** (5), **25** (1).

DORSET [**9**] Portland Bird Observatory, 23.8 (MC). ISLE OF WIGHT [**10**] Totland, 19.8 (Knill-Jones, 2011). S. HAMPSHIRE [**11**] Bournemouth, 14.8, 15.8, 16.8 (2) (DE per TJN); Brockenhurst, 13.8 (KW per TJN); Hurn, 27.7 (MJ per TJN); Exbury, 2.9 (2) (RC per TJN); Funtley, 9.9 (MLO per TJN); Pennington, 15.8, 19.8 (2), 26.8 (RC per TJN); Southampton, 26.7 (KJP per TJN); Sway, 7.8 (2), 30.8 (S. Keen per TJN); West Town, Hayling Island, 8.8 (GSAS, in Phillips & Johnson, 2011). E. SUSSEX [**14**] Rye Harbour, 21.8 (CB). E. KENT [**15**] Dungeness, 12.8 (Clancy, 2011a); Dymchurch, 1.8, 21.8 (JEO); Ramsgate, 14.8, 22.8 (Solly *et al.*, 2011). E. SUFFOLK [**25**] Dunwich Heath, 11.8 (Moore & Deans, 2011).

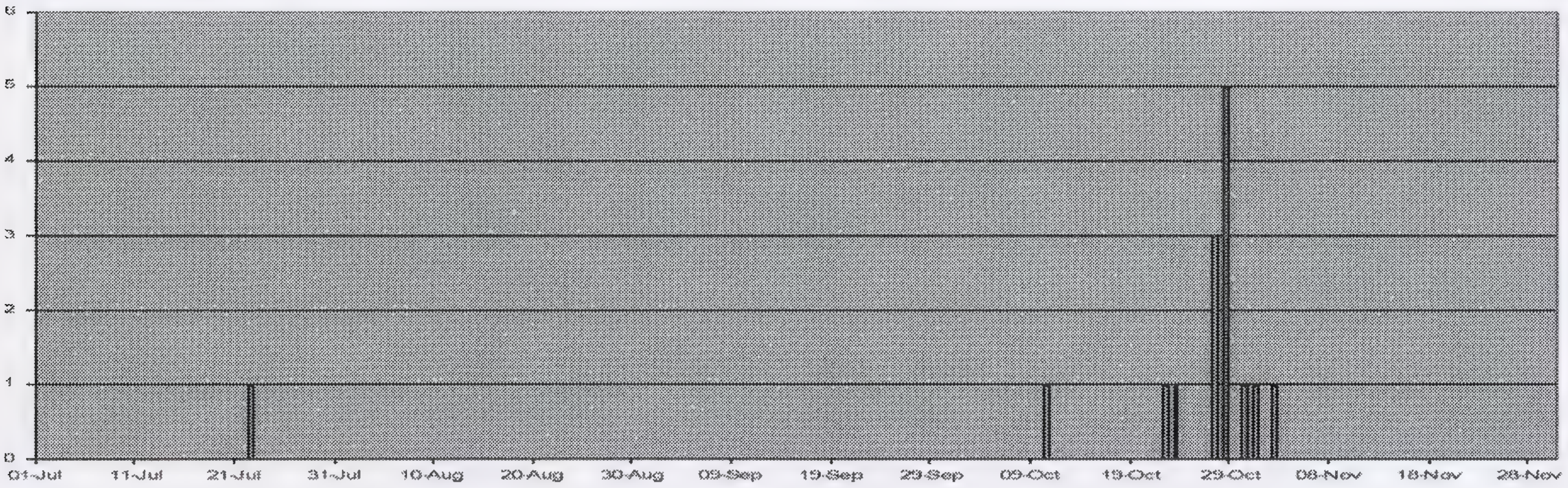

Figure 1. Occurrence times of *Cydia amplana* during 2010.

PYRALIDAE

1289 *Euchromius ocellea* (Haw.) [I]

DORSET [**9**] Bowleaze Cove, 21.8 (IM); Walditch, 23.9 (Parsons, 2011). E. KENT [**15**] Ramsgate, 10.10 (Solly *et al.*, 2011).

1291 *Haimbachia cicatricella* (Hb.) [I][MC?]

E. KENT [**15**] Lydd-on-sea, 26.7 (BFS).

1296 *Crambus silvella* (Hb.) [R][I/V]

Coastal/extralimital records that may refer to immigrant examples.
E. KENT [**15**] Dungeness, 31.7, second VC record (Clancy, 2011a).

1314 ***Catoptria margaritella*** **(D. & S.) [R][I/V]**
Extralimital records of possible immigrant examples.
SURREY [**17**] West Molesey, 27.7, first VC record (A. Cheeseman per JP, in Langmaid & Young, 2011). HUNTINGDONSHIRE [**31**] Orton Waterville, 1.8, first VC record (J. Newman per BD, in Langmaid & Young, 2011). S.E. YORKSHIRE [**61**] Rudston, 22.7, first VC record (ASE per HEB, in Langmaid & Young, 2011).

1357 ***Evergestis extimalis*** **(Scop.) [R][I][V]**
An established resident in parts of southern and eastern England, and consequently records have not been included in the current report from the coastal counties between VC's **9** & **61**, or VC's **12** & **26**. The following records are from areas where resident populations are not currently known, and are likely to relate to immigrant or vagrant examples.
W. CORNWALL [**1**] Church Cove, The Lizard, 22.6, 12.9 (MT); Cury, 4.9 (FTJ). S. NORTHUMBERLAND [**67**] Tynemouth, 8.9, first VC record (Tams, 2011).

1368 ***Loxostege sticticalis*** **(L.) [I][FR]**
E. SUFFOLK [**25**] Minsmere, 16.8 (Harvey & Higgott, 2011).

1369 ***Uresiphita gilvata*** **(Fab.) [I]**
SURREY [**17**] Nutfield, 5.10, first VC record (RB).
W. CORK [**H3**] Cape Clear Island, 10.10 (7), 13.10, first VC records (O'Donnell, 2011).

1370 ***Sitochroa palealis*** **(D. & S.) [I/V][R]**
Coastal/extralimital records that may relate to immigrant examples.
E. KENT [**15**] Lydd, 1.8 (KR); Lydd-on-sea, 1.7 (DB). E. NORFOLK [**27**] Eccles-on-sea, 30.7 (Bowman, 2011).

1374a ***Sclerocona acutellus*** **(Evers.) [In][I?][MC]**
ISLE OF WIGHT [**10**] West Wight, 21.6 (5), 19.7 (6), the first VC records and likely to relate to a local colony (JH).

1375 ***Ostrinia nubilalis*** **(Hb.) [R][I][V]**
An established resident in south-east England, recently extending its range westward and northward, and consequently records have not been included in the current report from the southern and eastern seaboard counties between VC's **3** & **27**, and inland to VC's **12**, **16** & **17**. The following records are probably the result of internal range expansion, although fresh immigration from the continent is a possibility, particularly for the more coastal records.
W. CORNWALL [**1**] Maenporth, July (1), 4.9 (GD). N. LINCOLNSHIRE [**54**] Gibraltar Point, 3.7 (Bagworth, 2011). N.W. YORKSHIRE [**65**] Hutton Conyers, 19.7, first VC record (CHF).

1397a ***Diplopseustis perieresalis*** **(Walk.) [I/In]**
S. HAMPSHIRE [**11**] Southsea, 12.9, first VC record (Langmaid & Young, 2011). SURREY [**17**] Putney, 13.7, first VC record (per JP, in Langmaid & Young, 2011).

1400 ***Antigastra catalaunalis*** **(Dup.) [I]**
W. CORNWALL [**1**] Cury Cross Lanes, The Lizard, 9.10 (Tunmore, 2011). W. SUSSEX [**13**] Walberton, 8.10 (JTR). E. KENT [**15**] New Romney, 8.10 (KR).

1401 ***Maruca vitrata*** **(Fabr.) [In][I]**
MID-W. YORKSHIRE [**64**] Otley, 15.6 (indoors), first VC record (H. & A. Barker per HEB, in Langmaid & Young, 2011).

1402 ***Diasemia reticularis*** **(L.) [I]**
E. CORNWALL [**2**] St Kew, 27.7, first VC record (GMT).

1403a ***Duponchella fovealis*** **(Zell.) [I][In]**
S. HAMPSHIRE [**11**] Bournemouth, 20.7, 27.7 (DE per MJ); Stubbington, 26.7, to light (DH). N. ESSEX [**19**] Lee Valley Park, 21.8, to light (MCH). BERKSHIRE [**22**] Lower Earley, 4.9, to light (I. Sims per MCH). BEDFORDSHIRE [**30**] Upper Caldecote, 19.7, first VC record (M. Burgess per DVM). E. GLOUCESTERSHIRE [**33**] Longlevens, 10.9, first VC record (per RGG, in Langmaid & Young, 2011). N.W. YORKSHIRE [**65**] Broken Brea, Richmond, 14.5 (indoors), first VC record (P. Kipling per CHF).

1404 ***Spoladea recurvalis* (Fabr.) [I]**
DORSET [**9**] Walditch, 2.11 (Parsons, 2011). S. ESSEX [**18**] Thundersley, 12.10, first VC record (D. Down).

1408 ***Palpita vitrealis* (Rossi) [I]**
Total no. reported: **52**
By vice-county: **1** (9), **2** (1), **3** (1), **9** (2), **10** (1), **11** (1), **13** (6), **14** (2), **15** (8), **18** (3), **19** (2), **22** (1), **25** (2), **28** (1), **33** (1), **54** (1), **66** (1), **85** (1), **H3** (8).
W. CORNWALL [**1**] IOS: Longstone, St Mary's, October (4), with additional records elsewhere on the island, 14.10, 26.10 (Scott, 2011a); IOS: St Agnes, 14.10 (Scott, 2011a); Maenporth, 8.10, 26.10 (GD). E. CORNWALL [**2**] Torpoint, 1.11 (LACT). S. DEVON [**3**] Exminster, 30.6 (Dickson, 2011). DORSET [**9**] Langton Matravers, 22.9 (R. Cox); Walditch, 21.8 (Parsons, 2011). ISLE OF WIGHT [**10**] Bonchurch, 18.9 (JH). S. HAMPSHIRE [**11**] Keyhaven, 27.8 (SI, RC per TJN). W. SUSSEX [**13**] Bracklesham, 9.10, 13.11 (DL per CRP); Ferring, 3.10, 8.10 (THF); Middleton-on-sea, 24.7 (IDM, in Dickson, 2011); Walberton, 7.10 (JTR per CRP). E. SUSSEX [**14**] Icklesham, 29.10 (IDH per CRP); Peacehaven, June (1) (Pratt, 2011). E. KENT [**15**] Dungeness, 1.9, 2.9 (KR); Kingsdown area, October (1) (Jarman & Morris, 2011); New Romney, 28.9 (KR); Pegwell, 9.9 (FS per IDF); Ramsgate, 9.9, 11.9, 8.10 (FS per IDF). S. ESSEX [**18**] Bradwell-on-sea, 6.9, 10.9, 7.10 (Dewick, 2011). N. ESSEX [**19**] Braintree, 10.10 (SR); Heybridge, 9.10 (S. Wood). BERKSHIRE [**22**] Pucketty Farm, 19.7 (MFVC per MCH). E. SUFFOLK [**25**] Dunwich Heath, 8.10 (Moore & Deans, 2011); Landguard, 28.9 (Odin, 2011). W. NORFOLK [**28**] Holme-next-the-sea, 25.8 (PC per JW). E. GLOUCESTERSHIRE [**33**] Stony Riding, 5.10 (R. Smith per RGG). N. LINCOLNSHIRE [**54**] Gibraltar Point, 8.10 (Bagworth, 2011). DURHAM [**66**] Cleadon, 10.9, first VC record (per TJB, in Langmaid & Young, 2011). FIFESHIRE [**85**] Anstruther, 10.9, first VC record (Smout, 2011).
W. CORK [**H3**] Cape Clear Island, 10.10 (7), 11.10 (EO'D, in Walsh *et al.*, 2013).

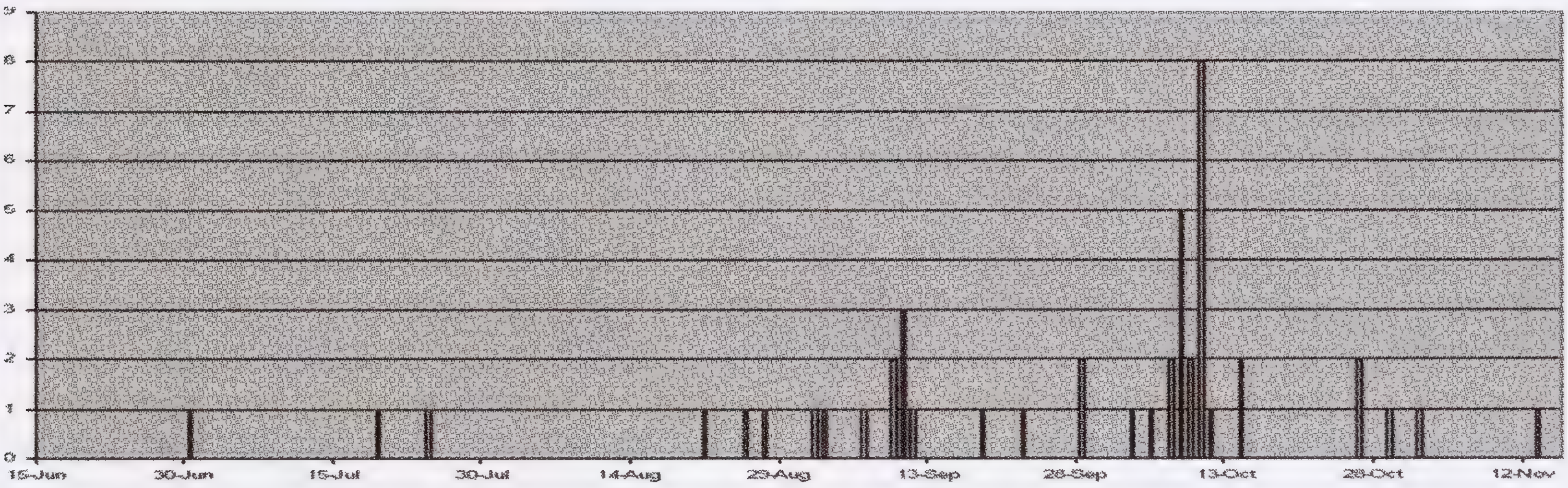

Figure 2. Occurrence times of *Palpita vitrealis* during 2010 (dated records).

1409a ***Cydalima perspectalis* (Walk.) [In]**
E. KENT [**15**] Densole, 13.7 (AR). SURREY [**17**] Locality witheld, May, larvae and pupae found in same plant nursery they were recorded from in 2009 (per FERA). HERTFORDSHIRE [**20**] Bishops Stortford, 8.8, first VC record (J. Reeves). BUCKINGHAMSHIRE [**24**] Stoke Poges, 11.7, 26.7, first VC records (S. Coverdale per MVA). W. GLOUCESTERSHIRE [**34**] Stoke Bishop, Bristol, 8.10, first VC record (M. Evans per RGG).

1410 ***Agrotera nemoralis* (Scop.) [R][V/I]**
Extralimital records of possible immigrants.
S. HAMPSHIRE [**11**] Southsea, 4.6, first VC record since 1946 (JRL, in Langmaid & Young, 2011).

1435 ***Acrobasis tumidana* (D. & S.) [I]**
E. KENT [**15**] Dymchurch, 15.8 (JEO); Pegwell, 20.7 (Solly *et al.*, 2011); Sittingbourne, 6.8 (IC per IDF); Tenterden, 20.8 (per IDF). HERTFORDSHIRE [**20**] Ellenbrook, 24.7 (AB). E. SUFFOLK [**25**] Ipswich, 11.8 (NS per AWP).

1441 ***Oncocera semirubella* (Scop.) [R][V/I]**
Coastal/extralimital records of probable immigrant/vagrant examples.
E. SUSSEX [**14**] Icklesham, 29.7, 1.8 (Hunter, 2011).

1451a ***Etiella zinckenella* (Treits.) [I][In]**
N. HAMPSHIRE [**12**] Weston Colley, 5.10, first VC record (DGG, in Langmaid & Young, 2011).

1454b ***Dioryctria sylvestrella* (Ratz.) [MC][I][V]**
Now breeding locally in southern and south-east England, the following coastal or extralimital records may relate to fresh immigration or internal vagrancy.
E. KENT [**15**] Pegwell, 14.8 (Solly *et al.*, 2011). S.E. YORKSHIRE [**61**] Kilnsea, 9.7, first VC record (PAC per CHF). S.W. YORKSHIRE [**63**] Treeton, 1.9, first VC record (HEB, in Langmaid & Young, 2011).

1461 ***Assara terebrella* (Zinck.) [R][I/V]**
Coastal records away from habitat that may relate to immigrant examples.
DORSET [**9**] Ferndown, 7.10 (RRC, in Dickson, 2011); Cooden, 7.8 (JS per CRP). E. KENT [**15**] New Romney, 18.7 (Clancy, 2011a). E. SUFFOLK [**25**] Minsmere, 19.8 (Harvey & Higgott, 2011).

1465 ***Nephopterix angustella* (Zell.) [R][V/I]**
Extralimital/coastal records with a potentially immigrant origin.
E. KENT [**15**] Dungeness, 27.6 (DW); Greatstone, 12.9 (BBa); New Romney, 27.6 (SPC). S.E. YORKSHIRE [**61**] Lund, 7.9, first VC record (per HEB, in Langmaid & Young, 2011).
WATERFORD [**H6**] Tramore, 3.9, new to Ireland (Bryant & Walsh, 2011).

1467 ***Ancylosis oblitella* (Dup.) [R][I/V]**
Extralimital/coastal records with a potentially immigrant origin.
E. KENT [**15**] Dungeness, 6.6, 30.7 (DW); Lydd, 16.8 (KR); New Romney, 29.6 (KR).

PTEROPHORIDAE

1496 ***Cnaemidophorus rhododactyla* (D. & S.) [R][I/V]**
Coastal/extralimital records that may relate to immigrants.
E. KENT [**15**] Pegwell, 14.7, 24.7, 25.7 (Solly *et al.*, 2011).

PAPILIONIDAE

1539 ***Papilio machaon* (L.) Swallowtail [R][I][In?]**
The following records are all likely to relate to continental race *gorganus* (Fruhs.).
S. DEVON [**3**] Berry Head, 14.7 (anon.).

PIERIDAE

1549 ***Pieris brassicae* (L.) Large White [R][I]**
High coastal counts or light-trap records potentially relating to primary migrants.
S.E. YORKSHIRE [**61**] Spurn, 19.7, c.1500 flying north-west along the coast and over the sea during a thirty minute period (Spence, 2011).

1550 ***Pieris rapae* (L.) Small White [R][I]**
High coastal counts potentially relating to primary migrants.
S.E. YORKSHIRE [**61**] Spurn, 19.7, c.1500 flying north-west along the coast and over the sea during a thirty minute period (Spence, 2011).

1552 ***Pontia daplidice* (L.) Bath White [I]**
S. DEVON [**3**] Wembury, 22.5 (R. Billington, in Anon., 2011).

LYCAENIDAE

1567 ***Lampides boeticus* (L.) Long-tailed Blue [I][In]**
DORSET [**9**] Cheyne Weare, Portland, 8.9 (Cade, 2011). N. HAMPSHIRE [**12**] Alice Holt Forest, 4.7 (P. Osso per TJN).

NYMPHALIDAE

1594 ***Nymphalis polychloros* (L.) Large Tortoiseshell [I][In?][FR][MC?]**
ISLE OF WIGHT [**10**] Brighstone, 1.8 (Knill-Jones, 2011); Knighton, 21.6 (Knill-Jones, 2011); Osborne, 18.5 (Knill-Jones, 2011); Parkhurst, 10.4 (Knill-Jones, 2011).

1596 ***Nymphalis antiopa* (L.) Camberwell Beauty [I][In?]**
ISLE OF WIGHT [**10**] Binstead, 7.2 (Knill-Jones, 2011). W. SUSSEX [**13**] Chichester, undated (C. Newton per CRP). E. SUSSEX [**14**] Maresfield, 19.7 (MEW per CRP). W. SUFFOLK [**26**] Lackford, 30.6, 5.7 (Anon., 2011). E. NORFOLK [**27**] Strumpshaw, 17.4 (per A. Brazil, in Anon., 2011). W. NORFOLK [**28**] Holme, 11.7 (Anon., 2011); Titchwell, 28.6 – 2.7 (Anon., 2011); West Acre, 11.7 (per

A. Brazil, in Anon., 2011). HUNTINGDONSHIRE [**31**] Ramsey Heights, 12.7 (AFW per BD). CAERNARVONSHIRE [**49**] Conwy, 30.6 (G. Benfield, in Anon., 2011). LEICESTERSHIRE [**55**] Loughborough, 9.8 (Anon., 2011).

1597 ***Inachis io*** **(L.) Peacock [R][I][V]**
High coastal counts potentially relating to migrants.
S.E. YORKSHIRE [**61**] Spurn, 19.7, c.140 flying north-west along the coast and over the sea during a thirty minute period (Spence, 2011).

DANAIDAE
1630 ***Danaus plexippus*** **(L.) Monarch [I][In]**
W. CORNWALL [**1**] St Ives, 25.8 (KAS). GLAMORGAN [**41**] Margam CP, 10.10 (MDC).

LASIOCAMPIDAE
1639 ***Dendrolimus pini*** **(L.) Pine-tree Lappet [I][In/MC/R]**
Records away from the resident population in VC**96**.
ISLE OF WIGHT [**10**] Totland, 11.8 (SAK-J).

SATURNIIDAE
Unlisted ***Hyalophora cecropia*** **(L.) Robin Moth [In]**
W. CORNWALL [**1**] IOS: St Mary's, 7.5, 24.5, adults found by day (the latter one dead) (Goodey, 2011).

DREPANIDAE
1649 ***Drepana curvatula*** **(Borkh.) Dusky Hook-tip [I]**
E. KENT [**15**] Lydd-on-sea, 19.7 (DB); Barham, 12.6 (AGJB, in Clancy, 2011b). S. ESSEX [**18**] Bradwell-on-sea, 26.8 (Dewick, 2011). N. ESSEX [**19**] Braintree, 6.9 (SR).

GEOMETRIDAE
1664 ***Aplasta ononaria*** **(Fuessl.) Rest Harrow [R][I][V]**
Records away from known populations in VC**15**.
W. KENT [**16**] Grain, 24.6, 1.7 (AGJB, CWP).

1672 ***Thalera fimbrialis*** **(Scop.) Sussex Emerald [R][I][V][MC]**
Records away from the known population in VC**15**.
E. KENT [**15**] Pegwell, 24.7 (FS).

1678 ***Cyclophora puppillaria*** **(Hb.) Blair's Mocha [I][MC]**
All received/sourced records are listed, although some of these may be the result of localised breeding rather than primary immigration, particularly in VC**13**.
Total no. reported: 65
By vice-county: 1 (3), **10** (7), **11** (8), **13** (46), **14** (1).
W. CORNWALL [**1**] IOS: St Agnes, 9.10 (Scott, 2011a); IOS: St Mary's, 9.10, 31.10 (Scott, 2011a). ISLE OF WIGHT [**10**] Freshwater, 24.5, 21.6, 23.6, 26.6, 28.6 (D. Cooke per TJN); Totland, 4.9 (SAK-J); Ventnor, 31.8 (JH, RW). S. HAMPSHIRE [**11**] Blashford Lakes, 11.10 (R. Chapman per TJN); Burton, 26.7 (J. Southworth per TJN); Clanfield, 18.7 (JAM per TJN); Great Linford, nr. Ringwood, 9.10 (D. Westerhoff per TJN); Sandy Point, Hayling Island, 16.8, 17.8 (Phillips & Johnson, 2011); West Town, Hayling Island, 1.8, 5.8 (GSAS, in Phillips & Johnson, 2011). W. SUSSEX [**13**] Earnley, 5.10 (JH); Middleton-on-sea, 8.8, 7.9 (IDM); Ferring, 8.7 (2), 13.7 (5), 7.8 (6), 31.8, 3.10 (20), 7.10 (4), 8.10 (3), 14.10 (2) (THF). E. SUSSEX [**14**] Bexhill, 3.9 (DC per CRP).

1678a ***Cyclophora ruficiliaria*** **(H.-S.) Jersey Mocha [I][MC]**
Records unassociated with the breeding colony near Falmouth in VC**1**.
ISLE OF WIGHT [**10**] Bonchurch, 16.8, 22.8 [not 18.8 as stated in Knill-Jones, 2011] (JH).

1714 ***Idaea degeneraria*** **(Hb.) Portland Ribbon Wave [R][I/V]**
Coastal records away from VC's **3**, **9** & **10** that may relate to immigrants, vagrants or undiscovered colonies.
W. CORNWALL [**1**] Coverack, 23.9 (2) (DCGB); Maenporth, 3.9, 4.9 (Davis, 2011). S. HAMPSHIRE [**11**] Sandy Point, Hayling Island, 8.9 (Phillips & Johnson, 2011). W. SUSSEX [**13**] Bracklesham, 23.8 (DL per CRP); Findon, 12.9 (MAS per CRP). E. SUSSEX [**14**] Friston, 26.8, first VC record (MB per CRP).

1736 ***Catarhoe cuculata*** **(Hufn.) Royal Mantle [R][I][V]**
Extralimital/coastal records potentially relating to immigrants.
E. KENT [**15**] Dungeness, 17.7, 18.7 (JEC, DW).

1771a ***Thera cupressata*** **(Geyer) Cypress Carpet [R][V/I]**
Extralimital coastal records that may indicate primary immigration.
W. CORNWALL [**1**] IOS: Longstone, St Mary's, 17.6 (Scott, 2011a); Maenporth, 25.6, 3.9 (Davis, 2011). E. SUFFOLK [**25**] Landguard, 22.7 (NO per AWP).

1873 ***Venusia cambrica*** **(Curt.) Welsh Wave [R][V/I]**
Extralimital records likely to relate to vagrant or immigrant examples.
E. KENT [**15**] Densole, 7.8, first VC record (AR). MIDDLESEX [**21**] Wembley, 2.8, first VC record (D. Pledge).

1888b ***Stegania cararia*** **(Hb.) Ringed Border [I]**
S. HAMPSHIRE [**11**] Southsea, 1.7, first VC record (JRL).

1891 ***Macaria signaria*** **(Hb.) Dusky Peacock [I][MC]**
Records away from the known breeding population in VC**15**.
E. SUSSEX [**14**] Biddenden, 26.7 (SJB).

1894a ***Chiasmia aestimaria*** **(Hb.) Tamarisk Peacock [I]**
E. SUSSEX [**14**] Newhaven, 22.8, first VC record (ST per CRP).

1896 ***Itame brunneata*** **(Thunb.) Rannoch Looper [R][I]**
Extralimital records likely to relate to immigrants; within the current report these are summarised in Annex 2.

1918 ***Selenia lunularia*** **(Hb.) Lunar Thorn [R][I/V]**
Coastal records of possible immigrant specimens, the majority of these away from suitable habitat and/or relating to second-brood examples.
E. SUSSEX [**14**] Bexhill, 26-29.7 (5) (JS, in Clancy, 2011b). E. KENT [**15**] Greatstone, 6.6; Littlestone, 12.8 (KR).

SPHINGIDAE

1973 ***Acherontia atropos*** **(L.) Death's-head Hawk-moth [I][In]**
E. CORNWALL [**2**] Treboul Cross, 1.8, larva (R. Bradley per LACT). S. DEVON [**3**] Bideford, 25.6, entering beehive (L. Jones, in Clancy, 2011b); Plymouth, 20.9, larva (Clancy, 2011b). N. SOMERSET [**6**] Nr. Langport, September, three larvae on *Solanum dulcamara* (JB); Westonzoyland, 6.8, larva (anon.). DORSET [**9**] Ensbury, 10.9, larva (R. Blake per LJH); Puncknowle, 14.9 (RE per LJH). ISLE OF WIGHT [**10**] Bonchurch, 27.8 (JH). W. SUSSEX [**13**] Steyning, undated, two larvae (per DGG, via CRP). E. KENT [**15**] Dover, 27.7, by day (P. Willmott); Dungeness, 28.9, 12.10 (AJB, M. Jones); Postling, 15.9 (MN per IDF). N. ESSEX [**19**] Mersea Island, undated, larva (DU); Tolleshunt D'Arcy, 1.9 (DA per SR). E. SUFFOLK [**25**] Orfordness, 18.9 (MCM per AWP). MONTGOMERYSHIRE [**47**] Llandysil, 25.9 (per PRW). S. LANCASHIRE [**59**] Healey Stones, 6.9, by day (per SMP). MID-W. YORKSHIRE [**64**] Ripon, 8.9 (R. McGilvray per CHF).
WATERFORD [**H6**] Brownstown Head, 3.9 (Bryant & Walsh, 2011); Knockanore, 2.9, by day (Walsh *et al.*, 2013); no locality, 25/26.9, by day (Walsh *et al.*, 2013). KILDARE [**H19**] Clane, 30.8, by day (Walsh *et al.*, 2013). MAYO [**H27**] Tourmakeady, 5.9, found dead (Walsh *et al.*, 2013).

1986 ***Hyles euphorbiae*** **(L.) Spurge Hawk-moth [I][In]**
E. KENT [**15**] Sandwich Bay Bird Observatory, 30.6 (Hodgson & Howe, 2011); site witheld by recorder, 23-28.7, up to 72 larvae on *Euphorbia paralias* (FS per IDF). E. SUFFOLK [**25**] Landguard, 15-19.8, three larvae (Odin, 2011).

1987 ***Hyles gallii*** **(Rott.) Bedstraw Hawk-moth [I][R]**
W. CORNWALL [**1**] Land's End, 3.9 (GBH). ISLE OF WIGHT [**10**] Bonchurch, 18.8 (JH). E. SUSSEX [**14**] Bexhill, 25.8 (JS, in Clancy, 2011b). S. ESSEX [**18**] Ingatestone, 21.8 (GS). E. SUFFOLK [**25**] Spexhall, 24.7 (AH per AWP). W. NORFOLK [**28**] Brancaster Staithe, 21.5, 25.5, 14.8 (KH per JW); Holme B.O., 29.5 (JA per JW). N.E. YORKSHIRE [**62**] Guisborough, 26.7 (D. Oliver per CHF). S.W. YORKSHIRE [**63**] Owston Meadows, 27.7 (M. Couling per CHF). S. NORTHUMBERLAND [**67**] Slaley, 15.7 (ICH per TJT).

1990 ***Hyles livornica*** **(Esp.) Striped Hawk-moth [I]**
W. CORNWALL [**1**] Cury, 26.5, 11.6 (FTJ, in Tunmore, 2011); Lizard village, 11.6 (Tunmore, 2011). S. DEVON [**3**] Heavitree, 9.6 (GJJ). DORSET [**9**] Portland Bird Observatory, 7.9, 8.9 (per LJH); Puddletown, 5.6 (HWH per LJH); Spetisbury, 20.8 (DJK per LJH); Shapwick, 9.6 (anon.). S. HAMPSHIRE [**11**] Sholing, 6.5 (ARC per TJN). E. SUSSEX [**14**] Hurst Green, 5.6 (2) (MP per CRP). E. KENT [**15**] Densole, 26.8 (AR); Ruckinge, 7.8 (BBo). HUNTINGDONSHIRE [**31**] Buckden Marina, 15.6 (D. Thomas per BD).

1993 ***Hippotion celerio*** **(L.) Silver-striped Hawk-moth [I]**
DORSET [**9**] Portland Bird Observatory, 29.9 (Cade, 2011). E. KENT [**15**] Dymchurch, 31.10 (JEO). E. SUFFOLK [**25**] Dunwich Heath, 4.10 (Moore & Deans, 2011). MERIONETHSHIRE [**48**] Morfa Harlech, 4.9 (Hicks & Bantock, 2011).
Also an offshore record of an adult picked up dead on the 'Central' oil platform in the Irish Sea in June or early July 2010, about 30km south-west of Walney Island [**69**] (per L. Cross).

NOTODONTIDAE

2018 ***Clostera anachoreta*** **(D. & S.) Scarce Chocolate-tip [I][FR][MC?]**
Excluding records from the Dungeness area in VC**15** where a breeding colony is probably extant.
E. SUSSEX [**14**] Icklesham, 4.8 (Hunter, 2011). E. KENT [**15**] Pegwell, 2.8 (Solly *et al.*, 2011); Ramsgate, 23.7, 1.8 (Solly *et al.*, 2011); Stodmarsh, 3.8 (SPC).

LYMANTRIIDAE

2031 ***Leucoma salicis*** **(L.) White Satin [R][I/V]**
Extralimital, coastal records of possible immigrants.
W. CORNWALL [**1**] Land's End, 6.7 (GBH).

2034 ***Lymantria dispar*** **(L.) Gypsy Moth [I][FR][In]**
Not including records associated with introduced resident populations in the London area and on the Dorset/Hampshire border.
E. SUSSEX [**14**] Friston, 21.8 (MB per CRP). E. KENT [**15**] Ruckinge, 21.8 (BBo). E. SUFFOLK [**25**] Dunwich Heath, 17.8 (Moore & Deans, 2011).

ARCTIIDAE

2045 ***Eilema caniola*** **(Hb.) Hoary Footman [R][I/V]**
Coastal records considered most likely to relate to immigrant examples.
E. SUSSEX [**14**] Bexhill, 27.8 (JS, in Clancy, 2011b).

2051 ***Lithosia quadra*** **(L.) Four-spotted Footman [R][I]**
Extralimital, coastal records of probable immigrants.
E. SUSSEX [**14**] Bexhill, 26.9 (JS, in Clancy, 2011b). W. SUSSEX [**13**] Pagham, 7.8 (IL); Walberton, 2.10, 3.10 (JTR per CRP). E. SUSSEX [**14**] Bexhill, 27.9 (JS), 1.10 (KNA per CRP); Hastings, 9.10 (JHC). E. KENT [**15**] Densole, 7.10 (AR); Dymchurch, 29.9 (JEO); Lydd-on-sea, 7-9.10 (DB); Minster, 7.9 (RT per IDF); Orlestone Forest, 16.6, 19.7 (ALC per IDF); Rolvenden Layne, 8.10 (AJB); St Margaret's, 5.8 (Jarman & Morris, 2011). E. NORFOLK [**27**] Overstrand, 6.10 (G. Bond per JW). S. LANCASHIRE [**59**] Preston, 28.7 (R. Boydell per SMP). N. LANCASHIRE [**60**] Lightfoot Green, 30.7 (SMP).

2054 ***Utetheisa pulchella*** **(L.) Crimson Speckled [I]**
W. CORNWALL [**1**] IOS: St Mary's, 11.10 (A. Firth, I. Barber, in Scott, 2011a).

2067 ***Euplagia quadripunctaria*** **(Poda) Jersey Tiger [R][I/V]**
Records away from known resident populations in VC's **2**, **3**, **9**, **10**, **16** & **17**.
S. HAMPSHIRE [**11**] West Town, Hayling Island, 22.8 (GSAS, in Phillips & Johnson, 2011). E. SUSSEX [**14**] Peacehaven, 30.7, 12.8 (Pratt, 2011). E. KENT [**15**] Lydd, 7.8 (KR); Lydd-on-sea, 5.8 (B. Dinsley); New Romney, 19.7 (KR); St Margaret's, 11.8 (Jarman & Morris, 2011).

NOLIDAE

2076 ***Meganola albula*** **(D. & S.) Kent Black Arches [R][V/I]**
Coastal/extralimital records, likely to relate to internal dispersal or immigration.
E. CORNWALL [**2**] St Neot, 7.7 (JCN per LACT).

2079 *Nola aerugula* (Hb.) Scarce Black Arches [I]

E. KENT [**15**] Dungeness, 2.7 (DW); Greatstone, 4.7 (BBa); Leysdown-on-sea, 19.7 (IDF); Lydd-on-sea, 3.7 (DB); Pegwell, 7.7 (Solly *et al.*, 2011).

[A record from West Blean Wood [**15**] on 24.5 is considered to be unreliable.]

NOCTUIDAE

2137 *Eurois occulta* (L.) Great Brocade [I][R]

The following records are all thought to relate to the pale immigrant form; the records from VC**48** indicate the first breeding of this form in England.

E. KENT [**15**] Sissinghurst, 16.8.(SJB). HERTFORDSHIRE [**20**] Hitchin, 18.8 (N. Agar). E. NORFOLK [**27**] Barnham Broom, 21.8 (JJG per JW); Eccles-on-sea, 16.8 (Bowman, 2011). W. NORFOLK [**28**] Croxton, 16.6 (two larvae on *Betula* spp., adult bred), 8.7 (5), 21.7 (4) (C. Jones per JW); Welney, 8.7 (LM per JW). S.E. YORKSHIRE [**61**] Easington, 13.8 (MFS per CHF); Lund, 14.8 (M. Coverdale per CHF); Spurn, 17.8 (Spence, 2011); Thorpe, 14.8 (ASE per CHF). N.E. YORKSHIRE [**62**] Haxby, 13.8 (TC per CHF).

2145 *Discestra trifolii* (Hufn.) Nutmeg [R][I/V]

Extralimital records of potential immigrants:

W. CORK [**H3**] Cape Clear Island, 10.10 (EO'D, in Walsh *et al.*, 2013).

2160a *Lacanobia splendens* (Hb.) Splendid Brocade [I][MC?]

Total no. reported: **90**

By vice-county: **9** (4), **11** (3), **12** (1), **13** (2), **14** (13), **15** (63), **17** (2), **19** (1), **112** (1).

DORSET [**9**] Durlston, 19.7 (DJK per LJH); Portland Bird Observatory, 2.7, 5.7 (Cade, 2011); Puddletown, 11.7 (HWH per LJH). S. HAMPSHIRE [**11**] Lymington, 19.7 (PD per TJN); Northney, Hayling Island, 17.7, 26.7 (Phillips & Johnson, 2011). N. HAMPSHIRE [**12**] Leckford, 24.7 (DE, NM per TJN). W. SUSSEX [**13**] Bracklesham, 17.7 (DL); Walberton, 16.7 (JTR per CRP); first VC records. E. SUSSEX [**14**] Bexhill, 16.7 (DC); Camber, 26.7 (DCGB); Hurst Green, 19.7 (MP); Icklesham, 17.7 (3), 19.7 (2), 23.7, 26.7 (2) (Hunter, 2011); Peacehaven, 17.7 (Pratt, 2011); Rye Harbour, 21.7 (CB). E. KENT [**15**] Densole, 20.7 (AR); Dungeness, 18.7 (5), 19.7 (4), 20.7 (2), 21.7 (2) (BBa, BFS, PB *et al.*); Dymchurch, 14.7, 15.7 (2), 16.7 (2), 17.7, 18.7 (JEO); Greatstone, 16.7 (BBa); Kingsgate, 20.7, 23.7 (2) (Solly *et al.*, 2011); Lydd, 30.7 (KR); Lydd-on-sea, 16.7, 17.7 (Clancy, 2011a); New Romney, 13.7, 16.7, 19.7 (2), 20.7 (2), 22.7 (SPC, BFS *et al.*); Pegwell, 6.7, 18.7, 20.7, 23.7 (2) (Solly *et al.*, 2011); Ruckinge, 16.7 (BBo); St Margaret's, 20.7, 26.7 (Jarman & Morris, 2011); Sandwich Bay Bird Observatory, 2.7, 15.7 (2), 20.7, 22.7 (2), 23.7 (2), 24.7 (2), 25.7 (2), 27.7 (2) (Hodgson & Howe, 2011); Sissinghurst, 18.7 (2), 21.7, 23.7 (2) [not 19.7 as given in Anon, 2011] (SJB); Walmer, 16.7 (SPC). SURREY [**17**] Givons Grove, 20.7 (AMH per GAC); Lingfield, 27.7 (KEN per GAC). N. ESSEX [**19**] Point Clear, nr. Clacton-on-sea, 17.7, first VC record (SR). SHETLAND ISLANDS [**112**] Virkie, 19.7, new to Scotland (Harvey, 2011).

[A published record from Icklesham [**14**] on 1.9 (Hunter, 2011) is considered to be unacceptable.]

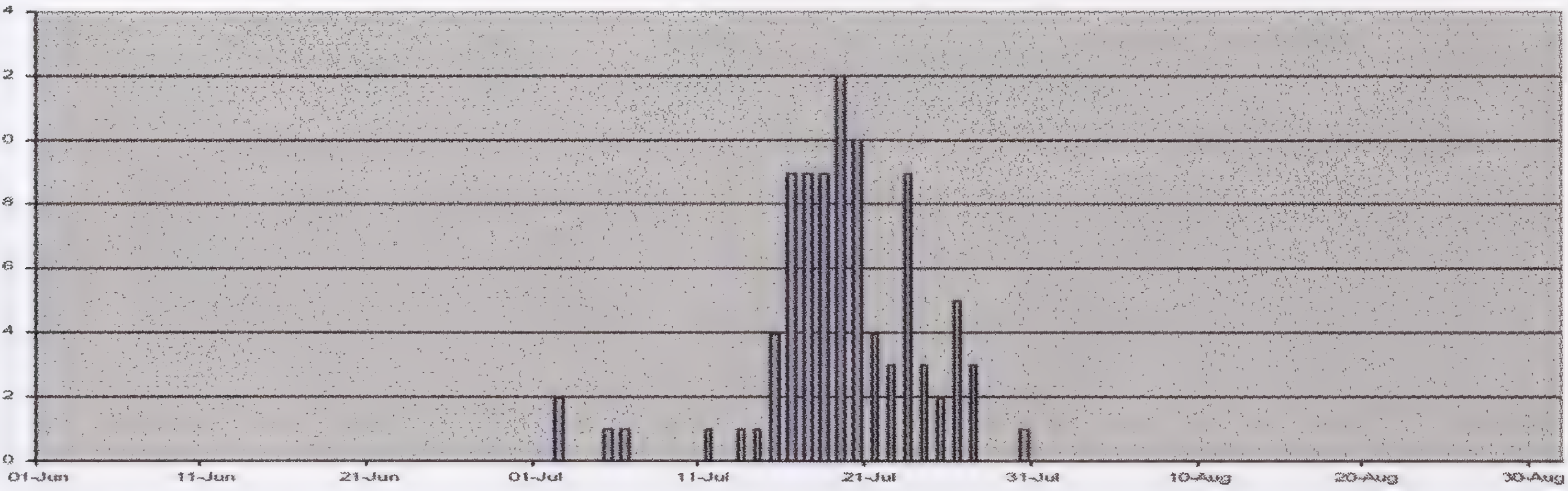

Figure 3. Occurrence times of *Lacanobia splendens* during 2010.

2183 *Orthosia miniosa* (D. & S.) Blossom Underwing [R][I/V]

Coastal or extralimital records that may relate to immigrants.

S. HAMPSHIRE [**11**] Mengham, Hayling Island, 28.4 (SW, in Phillips & Johnson, 2011); Sandy Point, Hayling Island, 29.4 (Phillips & Johnson, 2011). W. SUSSEX [**13**] Pagham, 7.4 (IL). S. ESSEX [**18**] Bradwell-on-sea, 19.4 (Dewick, 2011).

2194 *Mythimna albipuncta* (D. & S.) White-point [R][I/V]

An established resident within the southern and eastern seaboard counties between VC's **3** & **28**, and inland to include VC's **12**, **16**, **17**, **20**, **22** & **26**; records are only listed from outside this area, although

many of those listed are likely to be associated with an ongoing range expansion.
W. CORNWALL [1] IOS: Longstone, St Mary's, October (5) (Scott, 2011a); Maenporth, September (2) (Davis, 2011); The Lizard, September (1) (Tunmore, 2011). CAMBRIDGESHIRE [**29**] Stretham, 9.9 (2) (IB). BEDFORDSHIRE [**30**] Cockayne Hatley, 16.8, 2.9 (IPW per AMB). NORTHAMPTONSHIRE [**32**] Woodnewton, 5.9 (N. Smith). S.E. YORKSHIRE [**61**] Kilnsea, 8.9 (PAC per CHF); Spurn, 4.9 (BRS).

2202 ***Mythimna l-album* (L.) L-album Wainscot [R][I/V]**
An established resident within the southern seaboard counties between VC's **1** & **25** and inland to VC's **12** & **17**, and records are only listed from outside this area.
S.E. YORKSHIRE [**61**] Spurn, 5.10, first VC record (Spence, 2011).
W. CORK [**H3**] Cape Clear Island, 11.10, new to Ireland (O'Donnell, 2011).

2203 ***Mythimna unipuncta* (Haw.) White-speck [I][MC]**
Records away from the Isles of Scilly were scarce enough in 2010 for this species to be moved into Annex 1 in the current report and these are listed in full below. Records of this species from the Isles of Scilly have been summarised due to the presence of a resident population of *M. unipuncta* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin.
Total no. reported (away from the Scillies): 20
By vice-county: **1** (3), **2** (1), **9** (8), **10** (2), **11** (2), **13** (1), **15** (1), **H1** (1), **H6** (1).
W. CORNWALL [**1**] IOS summary: Longstone, St Mary's - 2010 annual total: 427; monthly totals: Jan (0), Feb (0), Mar (1), Apr (0), May (0), Jun (4), Jul (2), Aug (27), Sep (10), Oct (86), Nov (288), Dec (9) (Scott, 2011a); The Lizard, 25.9, 3.11 plus another in November (MT). E. CORNWALL [**2**] Downderry, 31.7 (JCN per LACT). DORSET [**9**] Portland Bird Observatory, 27.9, 10.10, 23.10, 30.10, 7.11 (per LJH); Puddletown, 13.10 (HWH per LJH); Puncknowle, 22.11 (RE per LJH); Weymouth, 22.6 (L. Philips per LJH). ISLE OF WIGHT [**10**] Bonchurch, 3.11 (JH); Totland, 8.10 (SAK-J). S. HAMPSHIRE [**11**] Hengistbury Head, 3.9 (B. Heppenstall per TJN); Highcliffe, 8.10 (R. Chapman per TJN). W. SUSSEX [**13**] Bracklesham, 7.10 (DL per CRP). E. KENT [**15**] Lydd-on-sea, 31.10 (DB).
KERRY [**H1**] Ballyferriter, 10.10 (J. Crosher, in Walsh *et al.*, 2013). WATERFORD [**H6**] Brownstown Head, 4.10 (PMW, in Walsh *et al.*, 2013).

2208 ***Mythimna loreyi* (Dup.) Cosmopolitan [I]**
Total no. reported: 36
By vice-county: **1** (17), **9** (2), **15** (4), **H3** (12), **H6** (1).
W. CORNWALL [**1**] IOS: Longstone, St Mary's, 12.10, 13.10 (Scott, 2011a); IOS: St Agnes, 9.10, 10.10, 11.10 (2), 12.10, 13.10 (3), 14.10 (4), 16.10 (2), 20.10 (anon.). DORSET [**9**] Portland Bird Observatory, 23.10 (per LJH); Puddletown, 12.11 (HWH per LJH). E. KENT [**15**] Dymchurch, 15.7 (JEO); Lydd-on-sea, 19.8 (DB); New Romney, 12.8 (per IDF); Pegwell, 22.8 (Solly *et al.*, 2011).
W. CORK [**H3**] Cape Clear Island, 10.10 (6), 11.10 (3), 12.10 (2), 14.10 (EO'D, in Walsh *et al.*, 2013).
WATERFORD [**H6**] Tramore, 10.10 (TB).
[A record from Canterbury [**15**] on 27.6 is considered to be unreliable.]

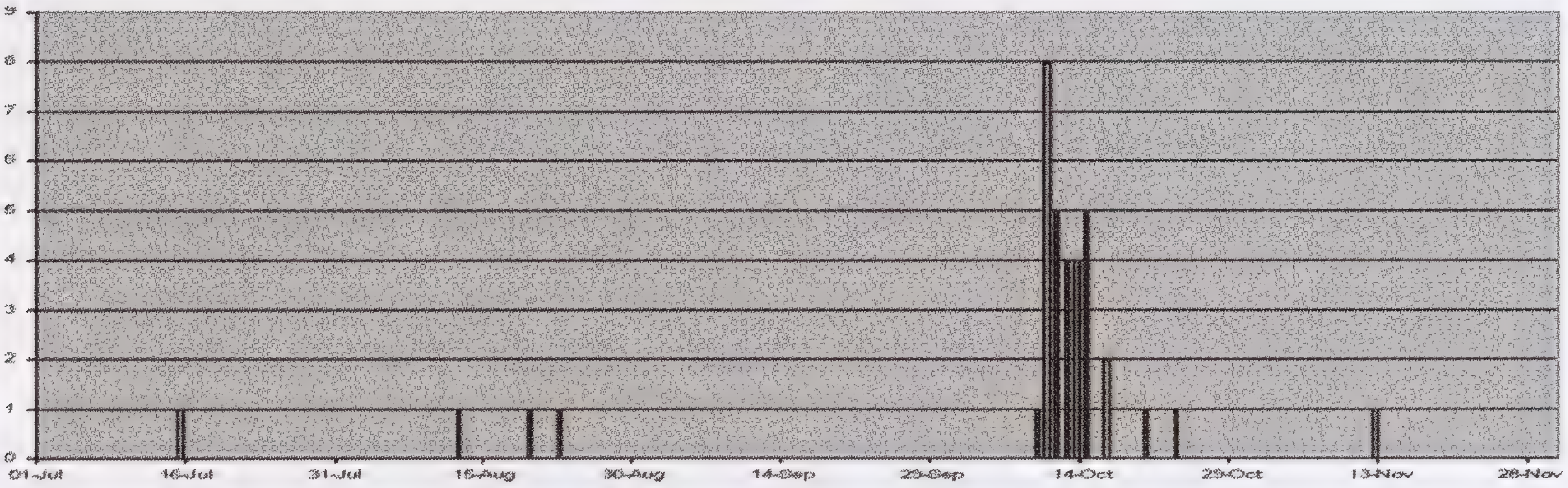

Figure 4. Occurrence times of *Mythimna loreyi* during 2010.

2226 ***Leucochlaena oditis* (Hb.) Beautiful Gothic [R][I/V]**
Extralimital records that may relate to immigrants.
S. HAMPSHIRE [11] Sandy Point, Hayling Island, 12.9, 4.10 (Phillips & Johnson, 2011).

2241 ***Xylena vetusta* (Hb.) Red Sword-grass [R][I][V]**
Records of a potentially immigrant origin.
W. CORNWALL [**1**] Cury, 17.3 (FTJ, in Tunmore, 2011); IOS: St Agnes, 17-21.10 (4) (Scott, 2011a); IOS: St Mary's, October (2) (Scott, 2011a). W. SUSSEX [**13**] Pagham, 7.4 (IL). E. NORFOLK [**27**] Cromer, 16.10 (R. Lee per JW). S.E. YORKSHIRE [**61**] Spurn, 1.5 (BRS).
KERRY [**H1**] Ballyferriter, 10.10 (2), with immigrants (J. Crosher).

2248b ***Dryobotodes tenebrosa* (Esp.) Sombre Brocade [I][MC]**
Records away from the known resident population in VC**9**.
DORSET [**9**] Abbotsbury Beach, 19.10 (C. Rogers). S. HAMPSHIRE [**11**] Sandy Point, Hayling Island, 28.9, first VC record (Phillips & Johnson, 2011).

2251 ***Trigonophora flammea* (Esp.) Flame Brocade [I][FR][MC?]**
W. CORNWALL [**1**] IOS: Longstone, St Mary's, 1.11, 3.11, first VC records (Scott, 2011a). DORSET [**9**] Durlston, 9.10 (MJD per LJH); Langton Matravers, 27.10 (DCGB); Portland Bird Observatory, 21.10, 30.10 (Cade, 2011). ISLE OF WIGHT [**10**] Bonchurch, 13.10, 21.10 (Knill-Jones, 2011). W. SUSSEX [**13**] Bracklesham, 30.10 (DL per CRP). WORCESTERSHIRE [**37**] Birmingham, 31.10 (J. Bryant).

2261 ***Conistra erythrocephala* (D. & S.) Red-headed Chestnut [I][MC?]**
E. KENT [**15**] Pegwell, 14.10 (Solly *et al.*, 2011); Sandwich Bay, 10.10 (Hodgson & Howe, 2011), 13.10 (anon.). E. SUFFOLK [**25**] Bradwell, nr. Great Yarmouth, 8.10 (KK); Dunwich Heath, 12.10 (Moore & Deans, 2011).

2275 ***Xanthia gilvago* (D. & S.) Dusky-lemon Sallow [R][V/I]**
Coastal records away from suitable breeding habitat that may be the result of immigration.
S. HAMPSHIRE [**11**] Northney, Hayling Island, 28.9 (Phillips & Johnson, 2011).

2276 ***Xanthia ocellaris* (Borkh.) Pale-lemon Sallow [R][I][V]**
Extralimital/coastal records that are likely to relate to immigrant examples.
DORSET [**9**] Walditch, 8.10 (Parsons, 2011). S. HAMPSHIRE [**11**] Northney, Hayling Island, 25.9 (Phillips & Johnson, 2011); Sandy Point, Hayling Island, 14.10 (Phillips & Johnson, 2011). W. SUSSEX [**13**] Earnley, 5.10, 6.10, 7.10 (JH). E. SUSSEX [**14**] Icklesham, 6.10 (Hunter, 2011). E. KENT [**15**] New Romney, 30.9 (KR); Pegwell, 1.10 (Solly *et al.*, 2011); St Margaret's, 9.10 (Jarman & Morris, 2011); Sandwich Bay Bird Observatory, 30.9, 4.10 (Hodgson & Howe, 2011). E. SUFFOLK [**25**] Bradwell, 22.9 (anon.). E. NORFOLK [**27**] Eccles-on-sea, 14.9 (Bowman, 2011).

2285 ***Acronicta strigosa* (D. & S.) Marsh Dagger [I][FR]**
W. SUSSEX [**13**] Pagham, 18.7 (IL); Woods Mill, 21.7 (GL).

2304 ***Trachea atriplicis* (L.) Orache Moth [I][FR]**
DORSET [**9**] Langton Matravers, 19.7 (S. Smith per LJH). ISLE OF WIGHT [**10**] Bonchurch, 19.7 (JH); Freshwater, 28.6, 30.6 (Knill-Jones, 2011); Totland, 29.6, 10.7, 13.7 (Knill-Jones, 2011). W. SUSSEX [**13**] Bracklesham, 3.7 (DL). E. SUSSEX [**14**] Hurst Green, 29.7 (MP); Northiam, 19.7 (A. Martin). E. KENT [**15**] Dungeness, 10.7, 19.7 (2) (PB, BFS); Lydd, 18.7 (KR); New Romney, 19.7 (2), 22.7 (BFS); Sandwich, 25.6 (anon.).

2313 ***Enargia paleacea* (Esp.) Angle-striped Sallow [R][I]**
Extralimital records of probable immigrants.
W. SUSSEX [**13**] Amberley, 10.7 (PDG per CRP).

2348 ***Chortodes elymi* (Hb.) Lyme Grass [R][I/V]**
Coastal records away from known resident populations.
E. KENT [**15**] Kingsgate, 20.6 (Solly *et al.*, 2011).

2349 ***Chortodes fluxa* (Hb.) Mere Wainscot [R][I/V]**
Coastal records away from known resident populations.
E. KENT [**15**] Dungeness, 20.7 (DW); Dymchurch, 16.7 (JEO); Lydd-on-sea, 19.7 (B. Dinsley); St Margaret's, 2.7, 13.7 (Jarman & Morris, 2011).

2376 ***Sedina buettneri* (Her.) Blair's Wainscot [R][I]**
Records away from known resident populations in VC**9**.
E. SUFFOLK [**25**] Dunwich Heath, 30.9, 3.10 (Moore & Deans, 2011).

2384 ***Hoplodrina ambigua* (D. & S.) Vine's Rustic [R][I/V]**

W. CORK [**H3**] Cape Clear Island, 11.10, the fourth or fifth Irish record that was recorded amidst a significant arrival of immigrants (O'Donnell, 2011).

2385 ***Spodoptera exigua* (Hb.) Small Mottled Willow [I][In]**

Total no. reported: **37**

By vice-county: **1** (1), **9** (3), **10** (1), **11** (5), **12** (3), **13** (3), **14** (1), **15** (12), **17** (2), **22** (2), **25** (1), **28** (2), **37** (1), **H3** (1).

W. CORNWALL [**1**] Land's End, 3.6 (GBH). DORSET [**9**] Portland Bird Observatory, 24.8 (per LJH); Puddletown, 12.7 (HWH per LJH); Puncknowle, 22.7 (RE per LJH). ISLE OF WIGHT [**10**] Totland, 8.7 (SAK-J). S. HAMPSHIRE [**11**] Dybdale, 8.8, 11.8 (3) (M. Pugh per TJN); Funtley, 3.7 (TDC per TJN). N. HAMPSHIRE [**12**] Weston Colley, 22.6, 2.7, 9.8 (DGG per TJN). W. SUSSEX [**13**] Bracklesham, 2.9 (DL per CRP); Walberton, 11.7 (2) (JTR per CRP). E. SUSSEX [**14**] Icklesham, 21.7 (IDH per CRP). E. KENT [**15**] Dungeness, 10.9 (PB); Dymchurch, 12.7 (JEO); Folkestone, 22.7 (AR); Isle of Thanet, September (1) (Solly *et al.*, 2011); Kingsdown area, July (1) (Jarman & Morris, 2011); New Romney, 19.7, 21.7 (KR); Pegwell, 23.7 (FS per IDF); Ruckinge, 7.7 (BBo); Sandwich Bay Bird Observatory, July (1), October (1) (Hodgson & Howe, 2011); Walmer, 13.7 (SPC). SURREY [**17**] Nutfield, 13.7, 24.8 (RJB, P. Cordell per GAC). BERKSHIRE [**22**] Mortimer, 10.10 (GJD per MCH); Reading, 8.9 (R. Dobson per MCH). E. SUFFOLK [**25**] Landguard, 3.7 (NO per AWP). W. NORFOLK [**28**] Dersingham, 2.7 (REJ per JW); Scolt Head NNR, 20.7 (N. Lawton per MT). WORCESTERSHIRE [**37**] Norchard, 16.7 (M. Southall).

W. CORK [**H3**] Cape Clear Island, 12.10 (O'Donnell, 2011).

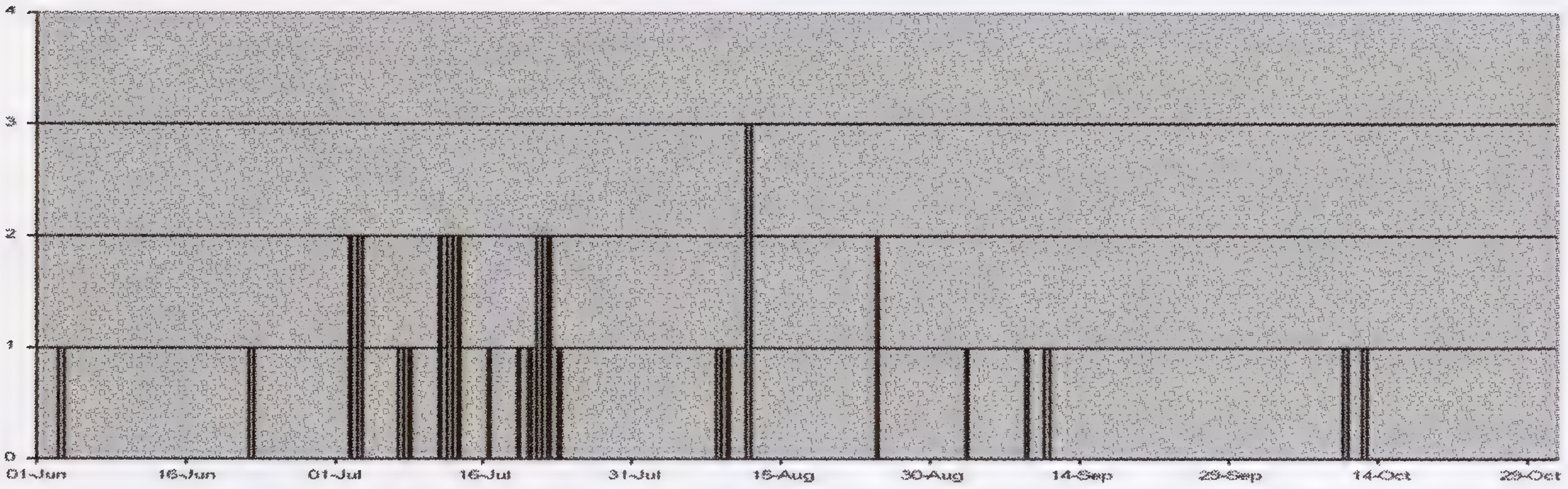

Figure 5. Occurrence times of *Spodoptera exigua* during 2010 (dated records).

2387a ***Platyperigea kadenii* (Frey.) Clancy's Rustic [MC][I]**

Records from the southern and eastern seaboard counties between VC's **1** & **25** have been excluded from the current report report as these are thought to be mainly associated with recently established resident populations.

BEDFORDSHIRE [**30**] Bromham, 8.10, first VC record (P. Almond per AMB).

2403 ***Heliothis peltigera* (D. & S.) Bordered Straw [I]**

Total no. reported: **38**

By vice-county: **1** (3), **3** (1), **9** (11), **10** (1), **11** (4), **12** (1), **14** (2), **15** (14), **H5** (1).

W. CORNWALL [**1**] IOS: Longstone, St Mary's, 17.6 (Scott, 2011a); Maenporth, 11.6 (2) (GD). S. DEVON [**3**] Uplyme, 8.6 (Clancy, 2011b). DORSET [**9**] Bothenhampton, 8.6 (MSP per LJH); Dorchester, 18.6 (J. Down per LJH); Portland Bird Observatory, 11.6, 31.7, 14.8, 16.8 (per LJH); Puddletown, 6.7 (HWH per LJH); Puncknowle, 11.6, 19.6, 3.9 (RE per LJH); St Aldhelm's Head, 10.8 (GW per LJH). ISLE OF WIGHT [**10**] Freshwater, 20.8 (D. Cooke per SAK-J). S. HAMPSHIRE [**11**] Bournemouth, 24.8 (DE per TJN); Hayling Island, 3.8, 12.8 (A. Johnson per TJN); Titchfield, undated (D. Wallace per TJN). N. HAMPSHIRE [**12**] Old Burghclere, 9.7 (GJD per TJN). E. SUSSEX [**14**] Camber, 26.7 (DCGB); Hastings, 9.9 (JHC). E. KENT [**15**] Dungeness, 27.7, 2.8, 6.8 (DW); Lydd, 23.7 (KR); Lydd-on-sea, 16.8, 9.10 (DB); New Romney, 28.7, 11.8 (SPC, AGJB); Orlestone Forest, 30.5, 19.7 (ALC per IDF); Pegwell, 26.7 (FS); Sandwich Bay Bird Observatory, July (1), August (1), September (1) (Hodgson & Howe, 2011).

E. CORK [**H5**] Ballycotton, 11.6 (Walsh *et al.*, 2013).

[A record from Lydden [**15**] on 15.6 (4) is considered to be unreliable].

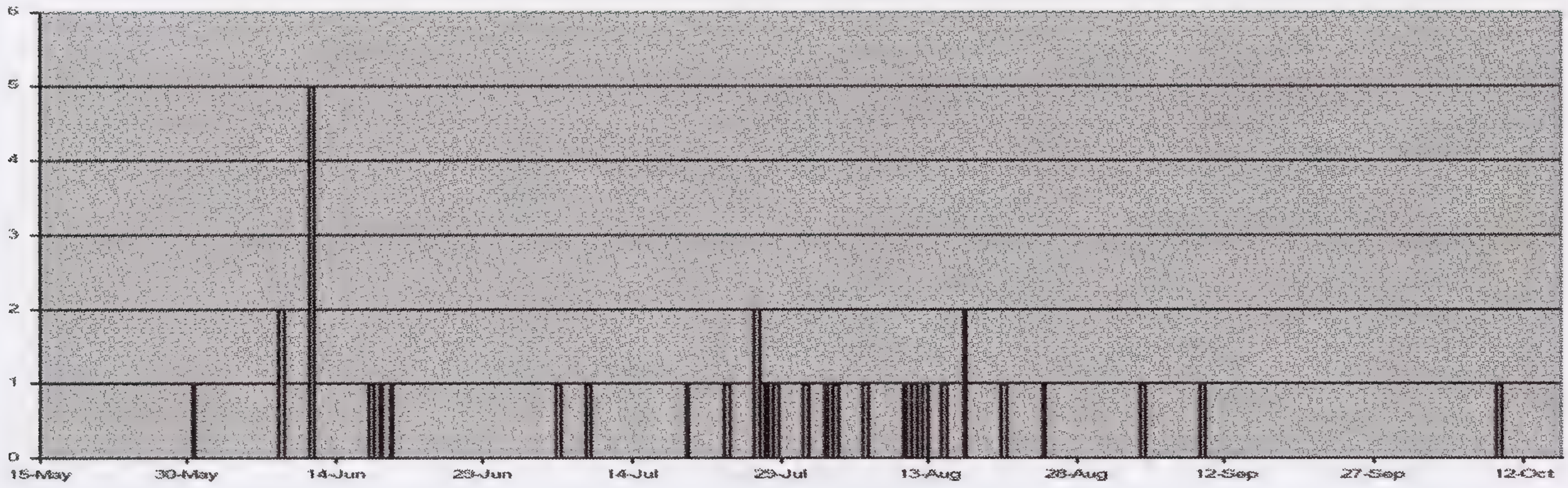

Figure 6. Occurrence times of *Heliothis peltigera* during 2010 (dated records).

2408 ***Eublemma parva*** **(Hb.) Small Marbled [I]**

S. HAMPSHIRE [**11**] Blashford Lakes, 29.6 (R. Chapman per TJN). N. ESSEX [**19**] Great Tey, 9.7 (CI); Mashbury, 23.7 (M. Tarrant per SR). BERKSHIRE [**22**] Tilehurst, 17.7 (J. Haseler per MCH).

2413 ***Deltote bankiana*** **(Fab.) Silver Barred [R][I/V]**

Coastal records away from known populations.

E. KENT [**15**] Dumpton, 28.6 (Solly *et al.*, 2011); Dungeness, 29.6 (DW); Kingsdown, 1.7 (FS per IDF). N. ESSEX [**19**] St Osyth, 9.6, 6.7 (RA, SR).

2428 ***Chrysodeixis chalcites*** **(Esp.) Golden Twin-spot [I][In]**

Total no. reported:

By vice-county:

E. KENT [**15**] Lydd, 9.10 (KR); Pegwell, 16.8, 11.10, 14.10 (Solly *et al.*, 2011). E. SUFFOLK [**25**] Dunwich Heath, 8.10 (Moore & Deans, 2011); Minsmere, 9.10 (Harvey & Higgott, 2011). S.E. YORKSHIRE [**61**] Easington, 8.10 (MFS per CHF). DURHAM [**66**] Stockton-on-Tees, 14.8 (2) (JCM, in Anon, 2011).

2430 ***Ctenoplusia limbirena*** **(Guen.) Scar Bank Gem [I]**

E. KENT [**15**] Ramsgate, 13.7 (PM).

2432 ***Trichoplusia ni*** **(Hb.) Ni Moth [I]**

W. CORNWALL [**1**] Church Cove, The Lizard, 2.8 (Tunmore, 2011). E. CORNWALL [**2**] Torpoint, 15.6 (LACT). ISLE OF WIGHT [**10**] Porchfield, 31.7 (M. Hallett per TJN). N. HAMPSHIRE [**12**] Weston Colley, 11.7 (DGG per TJN).

2433 ***Trysanoplusia orichalcea*** **(Frey.) Slender Burnished Brass [I]**

W. CORNWALL [**1**] IOS: St Agnes, 11.9 (MEH, in Scott, 2011a).

2436 ***Macdunnoughia confusa*** **(Steph.) Dewick's Plusia [I][In][MC?]**

Total no. reported:

By vice-county:

DORSET [**9**] East Lulworth, 15.9 (LJH); Southwell, Portland, 19.7 (Cade, 2011); Weymouth, 1.10 (PH per LJH). W. SUSSEX [**13**] Middleton-on-sea, 8.8 [not 18.8 as given in Clancy, 2011b] (IDM). E. KENT [**15**] Aylesham, 8.10 (DS per IDF); Dymchurch, 20.7 (JEO); Lydd, 18.7 (KR); Ruckinge, 20.4 (BBo); Sissinghurst, 22.9 (SJB). SURREY [**17**] Richmond Park, 20.7 (THF). S. ESSEX [**18**] Bradwell-on-sea, 17.8 (Dewick, 2011). N. ESSEX [**19**] St Osyth, 11.7, 21.7, 18.9 (CA, CT). W. SUFFOLK [**26**] Barrow, 15.9, by day (A.J. Parr).

2447 ***Syngrapha interrogationis*** **(L.) Scarce Silver Y [R][I]**

The following records are thought to relate to the plumbeous-grey immigrant form.

W. NORFOLK [**28**] Holme B.O., 14.8 (JA per JW).

2451 ***Catocala fraxini*** **(L.) Clifden Nonpareil [I][FR][MC]**

All received records are included for interest although a majority of those from inland sites are thought to relate to locally-bred adults.

Total no. reported: 48

By vice-county: **1** (1), **2** (1), **9** (15), **10** (3), **11** (3), **13** (2), **14** (3), **15** (15), **27** (2), **54** (1), **112** (2).
W. CORNWALL [**1**] IOS: St Agnes, 3.9 (Scott, 2011a). E. CORNWALL [**2**] Pentewan, St Austell, 20.10, first VC record (R. Stafford, J. Briggs). DORSET [**9**] Brownsea Island, 30.9 (C. Thain per LJH); East Lulworth, 7.10 (LJH); Lower Bockhampton, 9.10 (per LJH); Puddletown, 5.9 (2), 6.9, 10.9, 27.9, 3.10, 4.10, 5.10 (HWH per LJH); Tincleton, 8.10, 9.10 (R. Cottle per LJH); Turner's Puddle, 10.9 (AMD *et al.* per LJH); Wimborne St Giles, 8.10 (J. Winterbottom per LJH). ISLE OF WIGHT [**10**] Cranmore, 16.9 (IF per TJN); Totland, 27.9, 9.10 (Knill-Jones, 2011). S. HAMPSHIRE [**11**] Christchurch, 6.10 (R. Chapman per TJN); Pennington, 12.10 (RC per TJN); South Brockenhurst, 11.9 (RBW per TDN). W. SUSSEX [**13**] Bracklesham, 12.9, 6.10 (DL). E. SUSSEX [**14**] Staplecross, 10.9, 11.9 (anon.); Wadhurst, 5.10 (AA). E. KENT [**15**] Acrise, 2.10 (G. Williams per IDF); Biddenden, 4.10 (C. Tester per IDF); Challock, 26.9 (R. Jorden per IDF); Littlestone, 27.9 (AJB per SPC); Rolvenden Layne, 9.10 (AJB); Ruckinge, 15.10 (BBo); Shadoxhurst, 5.10 (M. Andrews per BBo); Sissinghurst, 5.9, 18.9 (2), 19.9 (2), 24.9, 30.9, 6.10 (SJB per IDF). E. NORFOLK [**27**] Eccles-on-sea, 30.8 (Bowman, 2011); West Runton, 1.9, by day (M. Hems per JW). N. LINCOLNSHIRE [**54**] Louth, 30.9 (R. Labbett). SHETLAND ISLANDS [**112**] Exnaboe, 10.9 (Anon., 2010); Whalsay, 10.9 (Anon, 2010).

2455 ***Catocala sponsa* (L.) Dark Crimson Underwing [R][I]**
Records away from breeding populations in and around the New Forest that may relate to immigrant examples.
E. SUSSEX [14] Hurst Green, 13.9 (MP per CRP); Peacehaven, 9.8 (Pratt, 2011).

2457a ***Achaea janata* (L.) Castor Semi-looper [In]**
W. SUSSEX [17] Crawley, 2.9, pupa found on imported supermarket pomegranate, adult emerged 12.9; the first British record. [N.B. A similar pupa was found earlier in the year (29.7) under similar circumstances in a different Crawley supermarket that was probably also this species but failed to produce an adult, so its identity could not be confirmed] (Clarke, 2011).

2475 ***Parascotia fuliginaria* (L.) Waved Black [R][I/V]**
Coastal/extralimital records of possible immigrant examples.
E. KENT [15] Ramsgate, 14.7 (Solly *et al.*, 2011).

2476 ***Hypena crassalis* (Fab.) Beautiful Snout [R][V/I]**
Coastal/extralimital records of possible immigrant examples.
ISLE OF WIGHT [**10**] Bonchurch, 30.6 (JH). S. ESSEX [**18**] The Wick, Canvey Island, 8.7, first VC record (GB). S. NORTHUMBERLAND [**67**] Tynemouth, 1.7, first VC record (Tams, 2011).

2488a ***Pechipogo plumigeralis* (Hb.) Plumed fan-foot [I][MC]**
All received/sourced records are listed, although many of these may be the result of localised breeding rather than primary immigration.
E. SUSSEX [14] Bexhill-on-sea, 26.7 - 5.8 (11) (JS). E. KENT [15] Greatstone, 27.7 (BBa); Littlestone, 27.7, 8.8, 9.8 (KR); Lydd-on-sea, 17.8 (Clancy, 2011a); Kingsdown, 10.8 (Jarman & Morris, 2011); Pegwell, 17.7, 16.8, 28.9 (Solly *et al.*, 2011); Ramsgate, 26.7 (Solly *et al.*, 2011); Walmer, 9.8 (SPC).

ANNEX 2: SELECTED RECORDS OF COMMONER MIGRANT SPECIES IN 2010

Numerical summaries are not provided for the migrant butterfly species listed in Annex 2, or for the commoner immigrant species *Plutella xylostella*, *Udea ferrugalis*, *Nomophila noctuella*, *Agrotis ipsilon* or *Autographa gamma*. This is due to the lack of comprehensive records, or the generalised, non-specific nature (or absence) of reports, of these species from many sites. Significant records, site totals and general comments have been given for these species, and county summaries of the diurnal records of the migrant butterflies & *Macroglossum stellatarum* are provided where these have been made available in spreadsheet format.

It has also not been possible to allocate months of occurrence to all the records of Annex 2 species reported. It is therefore the case that the total given for the number of reported records is based on the figures given in the distributional table, this generally being greater than the sum of the monthly totals given within the lower table. Only records of adults are included in the tables & numerical totals and, whilst it is likely that these will not always be comprehensive, the geographical and chronological occurrence patterns presented should closely reflect the overall picture for each species where these are given.

Key to the symbols used within the distribution tables:

SW – South-west England (VC's 1-4).
CS – Central southern England (coastal) (VC's 5, 6, 9-11, 13).
SE – South-east England (coastal) (VC's 14-16, 18, 19).
EA – East Anglia & Lincolnshire (VC's 25-28, 53, 54).
SI – Southern England (inland) (VC's 7, 8, 12, 17, 20-24, 29-34).
W – Wales (VC's 35, 41-52).
CE – Central England (inland) (VC's 36-40, 53-58).
NE – North-east England (VC's 61, 62, 66-68).
NW – North-west England & the Isle of Man (VC's 59, 60, 63-65, 69-71).
S – Scotland (VC's 72-112).
I – Ireland (VC's H1-H40).

YPONOMEUTIDAE

0464 ***Plutella xylostella* (L.) [R][I]**

Selected annual totals from fixed traps: DORSET [**9**] Portland Bird Observatory – 541 (Cade, 2011). E. KENT [**15**] Isle of Thanet – 2460 at five sites (Solly *et al.*, 2011); Sandwich Bay Bird Observatory – 1029 (Hodgson & Howe, 2011). E. SUFFOLK [**25**] Landguard – 671 (Odin, 2011). S.E. YORKSHIRE [**61**] Spurn – 468 (Spence, 2011).

Earliest dates: S. HAMPSHIRE [**11**] Highcliffe, 29.1 (S. Keen per TJN). WORCESTERSHIRE [**37**] Worcester, 21.3 (OW). MONTGOMERYSHIRE [**47**] Roundton NR, 20.3 (PRW). KILDARE [**H19**] Maynooth, 24.2 (P. Strickland, in Walsh *et al.*, 2013).

Latest dates: E. KENT [**15**] Ramsgate, 20.11 (PM). E. NORFOLK [**27**] Kelling Heath, 19.11 (P. Walton per JW).

Large single night counts: S.E. YORKSHIRE [**61**] Hunmanby Gap, 12.6 (128) (KC per CHF); Spurn, 1.6 (92) (BRS per CHF).

Large diurnal counts: S.E. YORKSHIRE [**61**] Spurn, 1.6 (100) (BRS).

PYRALIDAE

1395 ***Udea ferrugalis* (Hb.) [I][MC]**

Records of this species from the Isles of Scilly are summarised in a separate section below but have otherwise been excluded from this species account. This is due to the presence of a resident population of *U. ferrugalis* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin.

Selected annual totals from fixed traps: W. CORNWALL [**1**] The Lizard – 279 at three sites (Tunmore, 2011). DORSET [**9**] Portland Bird Observatory – 381 (Cade, 2011). E. KENT [**15**] Dungeness area – 273+ at eight sites (Clancy, 2011a).

Earliest dates: ISLE OF WIGHT [**10**] Bonchurch, 23.3 (JH).

Latest dates: E. KENT [**15**] Dungeness, 18.11 (KR).

Most northerly records: S. NORTHUMBERLAND [**67**] Tynemouth, July (1), September (1), October (1) (Tams, 2011).

Scilly Isles [1] summary: Longstone, St Mary's - 2010 annual total: 1971; monthly totals: Jan (1), Feb (0), Mar (1), Apr (3), May (33), Jun (72), Jul (114), Aug (331), Sep (210), Oct (841), Nov (364), Dec (1) (Scott, 2011a).

1398 ***Nomophila noctuella* (D. & S.) [I]**

Selected annual totals from fixed traps: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 684 (Scott, 2011a). DORSET [**9**] Portland Bird Observatory – 1259 (Cade, 2011). E. KENT [**15**] Dungeness area – 630+ at eight sites (Clancy, 2011a); Sandwich Bay Bird Observatory – 855 (Hodgson & Howe, 2011).

Earliest dates: W. CORNWALL [**1**] IOS: Longstone, St Mary's, March (1) (Scott, 2011a). DORSET [**9**] Weymouth, 23.3 (PH). E. KENT [**15**] Dungeness, 24.3 (DW).

Latest dates: E. KENT [**15**] Faversham, 27.10 (JSB per IDF).

Large single night counts: E. KENT [**15**] Greatstone, 9.9 (24) (BBa).

Most northerly records: OUTER HEBRIDES [**110**] South Uist, September (1) (Johnson, 2011).

Selected inland records: S.W. YORKSHIRE [**63**] Wintersett CP, 7.6 (P. Smith per CHF). MID-W. YORKSHIRE [**64**] Sharow Grange, 21.7 (5) (J. Warwick per CHF). N.W. YORKSHIRE [**65**] Hutton Conyers, 19.7, 2.10 (CHF); Nosterfield, 8.10 (5) (CHF). SELKIRKSHIRE [**79**] Bridgelands, 7.8, first VC record (T. de Bordes, in Langmaid & Young, 2011).

PIERIDAE

1545 ***Colias croceus* (Geoff.) Clouded Yellow [I][MC]**

Selected annual totals: S. HAMPSHIRE [**11**] Gosport – 31 (Tinling, 2011). E. KENT [**15**] Pegwell – 19 (Solly *et al.*, 2011). W. CORK [**H3**] Dursey Island – 13 (Scott, 2011b).

VC/County summaries: S. HAMPSHIRE [**11**] 3.7 – 27.10, 57 adults (per TJN). N. HAMPSHIRE [**12**] 29.6 – 5.9, 21 adults (per TJN).

Non-specific comments: ISLE OF WIGHT [**10**] 'An average year' (Knill-Jones, 2011).). S. HAMPSHIRE [**11**] 'All records (31) between 12 & 27.10' (Tinling, 2011). E. SUFFOLK [**25**] Landguard, 'Migrant butterflies were almost non-existent with just ...... a single *C. croceus* noted from 1-3.9' (Odin, 2011); Minsmere, 'a disappointing year for migrant butterfly species.....no *C. croceus* sightings' (Harvey & Higgott, 2011).

Earliest dates: ISLE OF WIGHT [**10**] Wheeler's Bay, 21.4 (3) (R. Wilson per TJN).

Latest dates: S. HAMPSHIRE [**11**] Gosport, 27.10 (2) (DJAT per TJN).

Large counts: N. HAMPSHIRE [**12**] Andover Down, 20.7 (6) (per TJN); Hatch Warren, 27.7 (7) (per TJN). W. CORK [**H3**] Dursey Island, mid-October (7+) (Scott, 2011b).

Selected inland records: HUNTINGDONSHIRE [**31**] Port Holme Meadow, 10.10 (S. Smith per BD); West Perry, 16.6 (J. Stevenson per BD). WORCESTERSHIRE [**37**] Throckmorton, 10.10 (anon.).

NYMPHALIDAE

1590 ***Vanessa atalanta* (L.) Red Admiral [R][I]**

Selected annual totals: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 541 (Scott, 2011a). S. HAMPSHIRE [**11**] Gosport – 441 (Tinling, 2011). E. KENT [**15**] Dungeness area – 463 at two sites (Clancy, 2011a). S.E. YORKSHIRE [**61**] Spurn – 900 (Spence, 2011). W. CORK [**H3**] Dursey Island – 597 (Scott, 2011b).

VC/County summaries: IRELAND [**H1-40**] March – November, 4516 adults in 30 counties (Walsh *et al.*, 2013). CORK [**H3/4/5**] 2633 adults (Walsh *et al.*, 2013).

Earliest dates (active): S. HAMPSHIRE [**11**] Poulner, 15.1 (M. King per TJN); Boscombe, 17.1 (MS per TJN). E. SUSSEX [**14**] Icklesham, 24.1 (Hunter, 2011). E. KENT [**15**] Denton, 17.1 (IDH).

Latest dates (active): S. HAMPSHIRE [**11**] Gosport, 19.12 (J. Park per TJN).

Large counts:.S.E. YORKSHIRE [**61**] Spurn, 28.9 (100, flying south) (BRS).

1591 ***Vanessa cardui* (L.) Painted Lady [I]**

Selected annual totals: E. KENT [**15**] Dungeness area – 59 at two sites (Clancy, 2011a). S.E. YORKSHIRE [**61**] Spurn – 65 (Spence, 2011).

VC/County summaries: ISLE OF WIGHT [**10**] 23.4 – 9.9, 95 adults (per TJN). S. HAMPSHIRE [**11**] 5.3, 8.4 – 6.9, 1.11, 180+ adults (per TJN). N. HAMPSHIRE [**12**] 24.4 – 17.9, 78+ adults (per TJN). MERIONETHSHIRE [**48**] 12.6 – 2.9, six adults (per ANG). SHETLAND ISLANDS [**112**] Sumburgh Head, 7.6; Mousa, 7.6; Quarff, 14.9 (Anon., 2010). IRELAND [**H1-40**] March – October, 369 adults in 22 counties (Walsh *et al.*, 2013). CORK [**H3/4/5**] 134 adults (Walsh *et al.*, 2013).

Non-specific comments: ISLE OF WIGHT [**10**] 'A poor year with only a few dozen sightings' (Knill-Jones, 2011). S. HAMPSHIRE [**11**] Gosport, 'a particularly poor year' (Tinling, 2011); Hayling Island, 'only small numbers' (Phillips & Johnson, 2011). E. KENT [**15**] Pegwell, 1.10 (Solly *et al.*, 2011). E. SUFFOLK [**25**] Landguard, 'Migrant butterflies were almost non-existent with just six *V. cardui* noted from 5.6 to 20.8' (Odin, 2011); Minsmere, 'a disappointing year for migrant butterfly species.....and *V. cardui* numbers were very low' (Harvey & Higgott, 2011). E. NORFOLK [**27**] Eccles-on-sea, *V. cardui* was 'very scarce' (Bowman, 2011).

Earliest dates (active):): S. HAMPSHIRE [**11**] New Forest, 5.3 (P. Ritchie per TJN). W. CORK [**H3**] Dursey Island, 20.3 (4) (Scott, 2011b).
Latest dates (active): S. HAMPSHIRE [**11**] Gosport, 1.11 (DJAT *et al.* per TJN).
Large counts: ISLE OF WIGHT [**10**] Totland, 2.7 (10) (per TJN). S. HAMPSHIRE [**11**] Broughton Down, 7.8 (15) (N. Freeman per TJN).
Immature stages: S. ESSEX [**18**] Bradwell-on-sea, near full-grown larva on 10.7 with evidence of at least two more (Dewick, 2011).

GEOMETRIDAE

1716 *Rhodometra sacraria* (L.) Vestal [I]

Total no. reported: 341

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
96	61	51	5	11	1	-	-	-	-	116

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	-	9	42	44	281	4	-

Selected annual totals from fixed traps: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 15 (Scott, 2011a); The Lizard – 16 at three sites (Tunmore, 2011). E. KENT [**15**] Dungeness area – 10 at thirteen sites (Clancy, 2011a).
Earliest dates: W. SUSSEX [**13**] Walberton, 11.7 (JTR per CRP). E. KENT [**15**] Faversham, 9.7 (J. Platts per IDF); Pegwell, 11.7 (FS per IDF); Ruckinge, 11.7 (BBo).
Latest dates: DORSET [**9**] Puncknowle, 8.11 (RE per LJH).
Large single night counts: W. CORNWALL [**1**] Buryas Bridge, 7.10 (12), 9.10 (7) (LHO). E. CORNWALL [**2**] St Kew, 9.10 (7) (GMT). W. CORK [**H3**] Cape Clear Island, 10.10 (22) (EO'D, in Walsh *et al.*, 2013). KERRY [**H1**] Ballyferriter, 10.10 (6) (J. Crosher). E. CORK [**H5**] Fota Island, 8.10 (8), 10.10 (8) (Walsh *et al.*, 2013).
Most northerly records: E. NORFOLK [**27**] Norwich, 7.9 (CD per JW). MONTGOMERYSHIRE [**47**] Commins Coch, 9.10 (PRW).
Selected inland records: SURREY [**17**] Hooley, 9.9 (JAC per GAC); Nutfield, 8.10 (RJB per GAC). HERTFORDSHIRE [**20**] Bishops Stortford, 9.9 (J. Fish). BERKSHIRE [**22**] Wokingham, 4.10 (RH). BEDFORDSHIRE [**30**] Upper Caldecote, 17.7 (M. Burgess per AMB). HUNTINGDONSHIRE [**31**] Old Weston, 7.10 (K. Royles per BD). NORTHAMPTONSHIRE [**32**] Woodnewton, 8.9, 10.9 (3) (N. Smith). MONTGOMERYSHIRE [**47**] Commins Coch, 9.10 (PRW).

1720 *Orthonama obstipata* (Fab.) Gem [I][MC?]

Total no. reported: 152

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
16	38	44	16	2	1	3	26	4	-	2

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	1	3	9	30	9	17	73	10	-

Selected annual totals from fixed traps: E. KENT [**15**] Dungeness area – 15 at thirteen sites (Clancy, 2011a). S. NORTHUMBERLAND [**67**] Tynemouth – 10 (Tams, 2011).
Earliest dates: DORSET [**9**] East Holme, 30.4 (J. Cox per LJH); Weymouth, 24.5 (PH per LJH). ISLE OF WIGHT [**10**] Totland, 30.5 (SAK-J per TJN). S. HAMPSHIRE [**11**] Blashford Lakes, 31.5 (R. Chapman per TJN).
Latest dates: DORSET [**9**] Puncknowle, 6.11 (RE per LJH).
Large single night counts: S. NORTHUMBERLAND [**67**] Tynemouth, 11.10 (4) (TJT).
Most northerly records: S. NORTHUMBERLAND [**67**] Tynemouth, 11-20.10 (10) (Tams, 2011); Whitley Bay, 10.10, 12.10 (TCS per TJT). N. NORTHUMBERLAND [**68**] Howick, 17.10 (SS per TJT).
Selected inland records: WARWICKSHIRE [**38**] Charlecote, 4.9 (DCGB). CHESHIRE [**58**] Marbury,

15.7, 18.7 (P. Hill). N. LANCASHIRE [**60**] Lancaster, 10.10 (NAJR per SMP); Yealand Conyers, 21.10 (BH per SMP). MID-W. YORKSHIRE [**64**] Bellflask, 12.10, 15.10 (BM per CHF).

1896 ***Itame brunneata*** **(Thunb.) Rannoch Looper [R][I]**

The follwing summary relates only to extralimital records of this species that are likely to relate to immigrants.

Total no. reported: 353

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
-	24	310	9	10	-	-	-	-	-	-

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	351	2	-	-	-	-	-

Selected annual totals from fixed traps: E. SUSSEX [**14**] Icklesham – 9 (Hunter, 2011). E. KENT [**15**] Dungeness area – 38 at thirteen sites (Clancy, 2011a); Dymchurch – 14 (JEO); Isle of Thanet – 13 at five sites (Solly *et al.*, 2011); Sissinghurst – 9 (SJB).

Earliest dates: E. KENT [**15**] Biddenden, 14.6 (SJB); Pegwell, 14.6 (FS).

Latest dates: E. KENT [**15**] Faversham, 2.7 (DWJ per IDF). E. NORFOLK [**27**] Langmere, 1.7 (RIS per JW).

Large single night counts: E. KENT [**15**] Covert Wood, Elham, 23.6 (50+) (JHC).

Most northerly records: E. SUFFOLK [**25**] Bawdsey, 28.6 (Deans, 2011). E. NORFOLK [**27**] Langmere, 1.7 (RIS per JW).

Most westerly record: ISLE OF WIGHT [**10**] Bonchurch, 19.6 (Knill-Jones, 2011).

SPHINGIDAE

1972 ***Agrius convolvuli*** **(L.) Convolvulus Hawk-moth [I][In]**

Total no. reported: 285

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
18	154	32	30	7	-	2	13	-	18	11

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	1	3*	49	206*	24	1	-

*The single September and 14 November records given in Cade (2011) are a misprint and should be shown as a single record in July and 14 in September as given in the above table (MC, pers. comm.).

Selected annual totals from fixed traps: DORSET [**9**] Portland Bird Observatory – 15 (MC). ISLE OF WIGHT [**10**] Bonchurch – 30+ (at *Nicotiana* spp. flowers) (JH); Porchfield – 16 (M. Hallett per TJN). BERWICKSHIRE [**81**] Eyemouth – 16 (at *Nicotiana* spp. flowers) (AP).

Earliest dates: DORSET [**9**] Portland Bird Observatory, 5.7 (per LJH). W. SUSSEX [**13**] Henfield, 22.7 (RR per CRP). E. NORFOLK [**27**] Eccles-on-sea, 20.7 (NB per JW). E. CORK [**H5**] Ballycotton, 11.6 (Walsh *et al.*, 2013).

Latest dates: S.E. YORKSHIRE [**61**] Withernsea, 16.11 (J. Brooks per CHF).

Large single night counts: W. CORNWALL [**1**] IOS: St Agnes, 11.9 (6) (MEH, in Scott, 2011a). DORSET [**9**] Puncknowle, 7.9 (11), 11.9 (6) (RE per LJH). BERWICKSHIRE [**81**] Eyemouth, 27.8 (4), 10.9 (5), 11.9 (4) (at *Nicotiana* spp. flowers) (AP).

Most northerly records: SHETLAND ISLANDS [**112**] Out Skerries, 19.3 (long dead, not included in table as likely to have been an autumn 2009 arrival) (Anon., 2010); Voehead, Bressay, 6.9 (Anon, 2010).

Selected inland records: HUNTINGDONSHIRE [**31**] Great Staughton, 2.9 (P. Bissell per BD). NORTHAMPTONSHIRE [**32**] Woodnewton, 9.9 (N. Smith). HEREFORDSHIRE [**36**] Bodenham, 15.9 (P. Bradley). WARWICKSHIRE [**38**] Coombe Abbey, Coventry, 29.9 (P. Hodges per DCGB).

Immature stages: W. NORFOLK [**28**] Titchwell, 15.8, larva (D. Savory per JW).

1984 ***Macroglossum stellatarum*** **(L.) Humming-bird Hawk-moth [I]**

Minimum no. reported: 1186

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
86	180	148	346	197	28	21	81	65	4	30

Months of occurrence (active):

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	1	2	7	5	66	657	240	136	57	5	-

Selected annual totals: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 38 (Scott, 2011a). E. KENT [**15**] Dungeness area – 53 (Clancy, 2011a); Sandwich Bay Bird Observatory – 39 (Hodgson & Howe, 2011).

VC/County summaries: DORSET [**9**] 10.3, 29.5 – 20.11, 65 adults (per LJH). ISLE OF WIGHT [**10**] 12.6 – 20.9, 53 adults (per TJN). S. HAMPSHIRE [**11**] 11.6 – 11.10, 35 adults (per TJN). KENT [**15/16**] 12.6 – 3.11, 82 adults (per SPC, IDF). BERKSHIRE [**22**] 7.2, 13.6 – 21.9, 22 adults (per MCH). SUFFOLK [**25/26**] 13.6 – 27.10, 58+ adults, 1 larva (per AWP). NORFOLK [**27/28**] 1.6 – 28.10, 280+ adults (per JW). BEDFORDSHIRE [**30**] 3.7 - 23.9, 32 adults, five larvae (per AMB). HUNTINGDONSHIRE [**31**] 10.4, 21.6 – 3.10, 15 adults (per BD). MONTGOMERYSHIRE [**47**] 6.7 – 21.9, 11 adults (per PRW). CHESHIRE [**58**] 5.7 – 16.8, seven adults (per SHH). LANCASHIRE [**59/60**] 28.6 – 24.8, 13.10, 1.11, 27 adults (per SMP). YORKSHIRE [**61-65**] 16.4, 20.6 – 7.10, 113 adults (per CHF). IRELAND [**H1-40**] 21.5 – 10.10, 30 adults (Walsh *et al.*, 2013).

Earliest dates (active): E. KENT [**15**] Dymchurch, 10.4 (JEO); Willesborough, 28.3, indoors (IDH). ISLE OF WIGHT [**10**] Ventnor, 1.4 (A. Butler per SAK-J). BERKSHIRE [**22**] Newbury, 7.2, indoors (MWS per MCH). HUNTINGDONSHIRE [**31**] Folksworth, 10.4 (per BD). MID-W. YORKSHIRE [**64**] Sherburn-in-Elmet, 16.4 (D. Sewell per CHF).

Latest dates (active): DORSET [**9**] Portesham, 13.11 (C. Whitby per LJH); Lyme Regis, 20.11 (R. Boswell per LJH). ISLE OF WIGHT [**10**] Ventnor, 1.11 (A. Butler per SAK-J). E. KENT [**15**] Lydd, 3.11 (EC). S. LANCASHIRE [**59**] Gregson Lane, 1.11 (D. Tucker per SMP).

Large counts: E. NORFOLK [**27**] Salthouse Church, 19.7 (50) (P. Lee per JW).

Evidence of hibernation: DORSET [**9**] Dorchester, 10.3, found dead (N. Matthews per LJH); Portesham, 13.11, flying out of shed (C. Whitby per LJH). E. KENT [**15**] Willesborough, 28.3, flying inside garden centre (IDH). BERKSHIRE [**22**] Newbury, 7.2, flying inside furniture showroom (MWS per MCH).

Immature stages/Evidence of breeding: S. ESSEX [**18**] Bradwell-on-sea, 13.7 (larva), 15-22.8 (four larvae) (Dewick, 2011). E. SUFFOLK [**25**] Ipswich Golf Course, 8.9 (larva) (NS per AWP). BEDFORDSHIRE [**30**] Renhold, 6.8 (two larvae), 7.8 (three larvae) (J. Comont, AMB). WORCESTERSHIRE [**37**] Pershore, 4.8 (two larvae) (Harley, 2011).

Offshore record: A single moth on a fishing boat c. ten miles west of Muckle Flugga [**112**] (Anon., 2010).

NOCTUIDAE

2091 ***Agrotis ipsilon*** **(Hufn.) Dark Sword-grass [I]**

Selected annual totals from fixed traps: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 263 (Scott, 2011a). DORSET [**9**] Portland Bird Observatory – 377 (Cade, 2011); Puddletown – 277 (HWH per LJH). ISLE OF WIGHT [**10**] Island total – 108 at five sites (Knill-Jones, 2011). E. SUSSEX [**14**] Icklesham – 125 (Hunter, 2011). E. KENT [**15**] Dungeness area – 303 at thirteen sites (Clancy, 2011a); Isle of Thanet – 136 at five sites (Solly *et al.*, 2011); Sandwich Bay Bird Observatory – 263 (Hodgson & Howe, 2011). S. ESSEX [**18**] Bradwell-on-sea – 360 (Dewick, 2011). E. SUFFOLK [**25**] Dunwich Heath – 103 (Moore & Deans, 2011). S.E. YORKSHIRE [**61**] Spurn – 190 (Spence, 2011). WATERFORD [**H6**] Tramore Bay – 140 (Bryant & Walsh, 2011).

Earliest dates: W. CORNWALL [**1**] Maenporth, 17.3 (GD); Penzance, 18.3 (LHO); Trewellard, 18.3 (2) (J. Foster). E. CORNWALL [**2**] Liskeard, 18.3 (ASP per LACT). DORSET [**9**] Portland Bird Observatory, 21.3 (per LJH). S. HAMPSHIRE [**11**] Pennington, 21.3 (RC per TJN). E. KENT [**15**] Lydd-on-sea, 23.3 (DB). WARWICKSHIRE [**38**] Charlecote, 24.3 (DCGB). S. LANCASHIRE [**59**] Formby, 21.3 (R. Walker per SMP).

Latest dates: DORSET [**9**] Weymouth, 5.11 (L. Philips per LJH).

Large single night counts: DORSET [**9**] Portland Bird Observatory, 30.8 (40), 31.8 (44) (per LJH); Puncknowle, 4.9 (32) (RE per LJH). S. ESSEX [**18**] Bradwell-on-sea, 21.8 (31) (Dewick, 2011). WATERFORD [**H6**] Brownstown Head, 28.8 (51) (PMW, in Walsh *et al.*, 2013).

2119 ***Peridroma saucia* (Hb.) Pearly Underwing [I]**
Total no. reported: 359
Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
106	123	63	22	11	3	1	6	3	-	21

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	-	-	4	11	14	23	48	79	165	12	-

Selected annual totals from fixed traps: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 24 (Scott, 2011a). DORSET [**9**] Portland Bird Observatory – 36 (Cade, 2011).
Earliest dates: W. CORNWALL [**1**] IOS: Longstone, St Mary's, January (1) (Scott, 2011a).
Latest dates: E. KENT [**15**] Dungeness, 18.11 (KR).
Large single night counts: W. CORNWALL [**1**] IOS: St Agnes (8+ traps), 11.10 (8), 14.10 (15), 20.10 (15) (anon.). DORSET [**9**] Portland Bird Observatory, 15.10 (4) (per LJH). WATERFORD [**H6**] Brownstown Head, 10.10 (7) (PMW, in Walsh *et al.*, 2013).
Most northerly records: N. LANCASHIRE [**60**] Singleton, 4.10 (B. Dyson per SMP).
Selected inland records: BEDFORDSHIRE [**30**] Cockayne Hatley, 21.9, 6.10 (IPW per AMB). HEREFORDSHIRE [**36**] Nr. Leominster, 21.9 (per R. Hemming). S. LANCASHIRE [**59**] Adlington, 13.10 (PP per SMP). S.W. YORKSHIRE [**63**] Kirk Smeaton, 4.9 (P. Simmons per CHF).

2195 ***Mythimna vitellina* (Hb.) Delicate [I][MC]**
Total no. reported: 390
Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
135	157	63	12	1	-	-	1	-	-	21

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	3	9	5	99	274	1	-

Selected annual totals from fixed traps: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 52 (Scott, 2011a). DORSET [**9**] Portland Bird Observatory – 35 (Cade, 2011). ISLE OF WIGHT [**10**] Totland – 34 (SAK-J per TJN).
Earliest dates: W. CORNWALL [**1**] Land's End, 9.6, 20.6 (GBH); The Lizard, 12.6 (MT).
Latest dates: DORSET [**9**] Puddletown, 3.11 (HWH per LJH).
Large single night counts: W. CORNWALL [**1**] IOS: St Agnes (eight traps), 14.10 (10) (anon.). W. CORK [**H3**] Cape Clear Island, 10.10 (8) (EO'D, in Walsh *et al.*, 2013).
Most northerly records: S.E. YORKSHIRE [**61**] Muston, 12.10 (PQW per CHF).
Selected inland records: SURREY [**17**] Givons Grove, 22.10 (AMH per GAC). W. SUFFOLK [**26**] Barrow, 8.10 (A.J. Parr per AWP).

2400 ***Helicoverpa armigera* (Hb.) Scarce Bordered Straw [I][In]**
Total no. reported: 232
Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
53	88	61	6	16	-	1	2	-	-	5

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	-	2	7	34	176	13	-

Selected annual totals from fixed traps: DORSET [**9**] Portland Bird Observatory – 10 (Cade, 2011); Puddletown – 19 (HWH per LJH). ISLE OF WIGHT [**10**] Totland – 12 (SAK-J per TJN). E. KENT [**15**] Dungeness area – 19 at thirteen sites (Clancy, 2011a); Isle of Thanet – 14 at five sites (Solly *et al.*, 2011).

Earliest dates: E. SUSSEX [**14**] Icklesham, 28.7 (IDH per CRP). WARWICKSHIRE [**38**] Bishops Itchington, 5.7 (DCGB).
Latest dates: BEDFORDSHIRE [**30**] Biggleswade, 5.11 (L. Burgess per AMB).
Large single night counts: W. CORNWALL [**1**] St Agnes (eight traps), 9.10 (10) (anon.). DORSET [**9**] Puddletown, 8.10 (5) (HWH per LJH).
Most northerly records: S.E. YORKSHIRE [**61**] Hunmanby Gap, 27.9 (KC per CHF); Spurn, 7.10 (BRS).
Selected inland records: BEDFORDSHIRE [**30**] Biggleswade, 5.11 (L. Burgess per AMB). NORTHAMPTONSHIRE [**32**] Woodnewton, 7.9, 9.10 (3), 11.10 (2) (N. Smith). W. GLOUCESTERSHIRE [**34**] Dursley, 29.10 (2) (P. Cranswick). WARWICKSHIRE [**38**] Bishops Itchington, 5.7 (DCGB).
Importations: W. NORFOLK [**28**] Caston, 8.7, larva found indoors (GMH per JW).

2441 ***Autographa gamma* (L.) Silver Y [I]**
Selected annual totals from fixed traps: W. CORNWALL [**1**] IOS: Longstone, St Mary's – 1803 (Scott, 2011a). E. KENT [**15**] Isle of Thanet – 1576 at five sites (Solly *et al.*, 2011); Sandwich Bay Bird Observatory – 2582 (Hodgson & Howe, 2011). S. ESSEX [**18**] Bradwell-on-sea – 4978 (Dewick, 2011). E. SUFFOLK [**25**] Dunwich Heath – 1464 (Moore & Deans, 2011); Landguard – 2279 (Odin, 2011); Minsmere – 1194+ (Harvey & Higgott, 2011). E. NORFOLK [**27**] Eccles-on-sea – 2162 (Bowman, 2011). S.E. YORKSHIRE [**61**] Easington – 1166 (MFS per CHF); Spurn – 4492 (Spence, 2011).
Latest date: E. NORFOLK [**27**] Sheringham, 11.12, by day (KZ per KW).
Large single night counts: E. KENT [**15**] Greatstone, 25.7 (160), 28.7 (427) (BBa); Hastingleigh, 9.6 (98) (JK per IDF). S. ESSEX [**18**] Bradwell-on-sea, 24.7 (284), 1.8 (203), 11.8 (286), 5.9 (158) (Dewick, 2011). N. ESSEX [**19**] Old Hall Marshes, 3.8 (200) (A. Cook). E. SUFFOLK [**25**] Bawdsey, 23.7 (237), 31.7 (350) (MJD); Dunwich Heath, 25.7 (281), 27.7 (312) (CM per AWP); Orfordness, 24.7 (1200) (SMG). W. NORFOLK [**28**] Scolt Head NNR, 20.7 (c.6000) (N. Lawton per MT). S.E. YORKSHIRE [**61**] Spurn, 1.8 (586), 3.8 (320) (BRS).
Large diurnal/dusk counts: E. NORFOLK [**27**] Winterton Dunes, 1.8 (c.80,000) (C. Robson). W. NORFOLK [**28**] Titchwell, 21.7 (c.90,000) (MT); Scolt Head NNR, 21.7 ('several hundred thousand') (N. Lawton per MT). DOWN [**H38**] Ballyquintin Point, 15.8 (600+) (R. Weyl, in Walsh *et al.*, 2013).
Immature stages: N. HAMPSHIRE [**12**] Weston Colley, 25.9, larva on *Alliaria petiolata* (DGG per TJN). HUNTINGDONSHIRE [**31**] Great Staughton, 21.8, 11.9, single larvae (P. Bissell per BD); St Neots, 11.7, larva(e) (I. Dawson per BD). DOWN [**H38**] Mountstewart, July, larvae on several dates (D. McCormick, in Walsh *et al.*, 2013).

ANNEX 3: SELECTED 2010 CHANNEL ISLANDS [VC 113] RECORDS

1369 ***Uresiphita gilvata* (Fab.)**
Guernsey: Damouettes Lane, 7.10 (Lawlor, 2011).

1599 ***Araschnia levana* (L.) European Map**
Jersey: St Martin, 9.9 (V. Lewis, in Long, 2010); Trinity, 5.8 (H. Trapp, in Long, 2010).

1603 ***Issoria lathonia* (L.) Queen of Spain Fritillary [I][MC?][In?]**
Alderney: Nr. Longis Bay, 9.7 (D. Wedd).

1896 ***Itame brunneata* (Thunb.) Rannoch Looper**
Alderney: 18.6 (5), 19.6 (2), 20.6 (2), 24.6 (2) (D. Wedd). **Guernsey**: Damouettes Lane, 18.6 (3) (Lawlor, 2011); La Broderie, 17.6, 18.6 (4) (PDMC); La Claire Mare, 18.6 (Lawlor, 2011); Le Chene, 18.6 (Lawlor, 2011); St Etienne, 18.6 (2) (Lawlor, 2011). **Jersey**: No site, 18.6 (2) (per D. Wedd).

1993 ***Hippotion celerio* (L.) Silver-striped Hawk-moth**
Guensey: La Broderie, 7.10 (PDMC).

2160a ***Lacanobia splendens* (Hb.) Splendid Brocade**
Guernsey: La Broderie, 8.7 (PDMC).

2308 ***Callopistria juventina* (Stoll) Latin**
Guernsey: La Broderie, 9.8 (PDMC).

2423 ***Nycteola asiatica*** **(Krul.) Eastern Nycteoline**
Alderney: 9.4 (D. Wedd).

2451 ***Catocala fraxini*** **(L.) Clifden Nonpareil**
Alderney: 10.9 (D. Wedd). **Guernsey**: La Broderie, 21.8, 5.9 (PDMC).

APPENDIX 1

Corrections/Additions to 2009 report

1357 ***Evergestis extimalis*** **(Scop.) [R][I][V]**
DURHAM [**66**] Saltholme, 8.8, first VC record (per TJB, in Langmaid & Young, 2011).

1374a ***Sclerocona acutellus*** **(Evers.) [In][I?]**
BUCKINGHAMSHIRE [**24**] Chorleywood, 29.6, first VC record [erroneously listed as a 2006 record in Appendix 3 of Clancy (2012)] (R. Ellis per MVA, in Langmaid & Young, 2010; year of record corrected in Langmaid & Young, 2011).

1716 ***Rhodometra sacraria*** **(L.) Vestal [I]**
BERKSHIRE [**22**] Moor Copse, 4.7 (JL per MCH).

1896 ***Itame brunneata*** **(Thunb.) Rannoch Looper [R][I]**
SURREY [**17**] Epsom, 31.5 (NWH per GAC); Nutfield, 31.5 (RJB per GAC). These records increase the annual total for immigrant *I. brunneata* in 2009 to **160**.

2400 ***Helicoverpa armigera*** **(Hb.) Scarce Bordered Straw [I][In]**
BERKSHIRE [**22**] Tilehurst, 19.8 (J. Haseler per MCH).

2403 ***Heliothis peltigera*** **(D. & S.) Bordered Straw [I]**
BERKSHIRE [**22**] Hemsdale, 9.8 (LJF per MCH).

2432 ***Trichoplusia ni*** **(Hb.) Ni Moth [I]**
BERKSHIRE [**22**] Steventon, 15.8 (MAW per MCH).

2436 ***Macdunnoughia confusa*** **(Steph.) Dewick's Plusia [I][In][MC?]**
SURREY [**17**] Selsdon, 10.7 (T. Ferris per GAC).

APPENDIX 2

Corrections/Additions to 2008 report

2420a ***Earias vittella*** **(Fabr.) Eastern Bollworm [In]**
WARWICKSHIRE [**38**] Coventry, 7.7, first VC record (Vice, 2011).

APPENDIX 3

Corrections/Additions to 2007 report

1408 ***Palpita vitrealis*** **(Rossi) [I]**
E. KENT [**15**] Rolvenden Layne, 15.10 (AJB).

2436 ***Macdunnoughia confusa*** **(Steph.) Dewick's Plusia [I][In][MC?]**
E. KENT [**15**] Rolvenden Layne, 13.10 (AJB).

APPENDIX 4

Corrections/Additions to 2006 report

1408 ***Palpita vitrealis*** **(Rossi) [I]**
E. KENT [**15**] Rolvenden Layne, 11.10 (AJB).

1769a ***Thera vetustata* (D. & S.) Fir Carpet [I]**
DORSET [**9**] Symondsbury, nr. Bridport, 17.10, new to Britain (JHC); identified retrospectively.

2051 ***Lithosia quadra* (L.) Four-spotted Footman [R][I]**
E. KENT [**15**] Rolvenden Layne, 14.9, 21.9 (AJB).

2420a ***Earias vittella* (Fabr.) Eastern Bollworm [In]**
MIDDLESEX [**21**] Horsenden Hill, 24.7, first VC record (D. Howdon). This record pre-dates the record from VC**21** given in Clancy (2012) and wrongly stated as being the first VC record.

APPENDIX 5
Corrections/Additions to 2005 report

1973 ***Acherontia atropos* (L.) Death's-head Hawk-moth [I][In?]**
E. KENT [**15**] Rolvenden Layne, 5.9 (AJB).

2455 ***Catocala sponsa* (L.) Dark Crimson Underwing [R][I]**
E. KENT [**15**] Rolvenden Layne, 7.9 (AJB).

APPENDIX 6
Corrections/Additions to 1997 report

1990a ***Hyles lneata* (Fabr.) White-lined Hawk-moth [In]**
NORTHAMPTONSHIRE [**32**] Daventry, 14.11, a freshly dead adult found in association with packing cases imported from North America; the second (and first modern) British record (K.F. Williams per SPC). Published in the 1997 report and in Williams (1998) erroneously as an example of *H. livornica*.

APPENDIX 7
Corrections/Additions to 1994 report

2428 ***Chrysodeixis chalcites* (Esp.) Golden Twin-spot [I][In]**
W. SUSSEX [**13**] Middleton-on-sea, 11.8, a previously unreported record, the specimen being exhibited at the 2012 BENHS Exhibition (IDM).

APPENDIX 8
Corrections/Additions to 1987 report

1891 ***Macaria signaria* (Hb.) Dusky Peacock [I][MC]**
SURREY [**17**] Haslemere, 6.7, first VC record; previously unreported, the specimen being exhibited at the 2012 BENHS Exhibition (R.J. Brooker per IDM).

Initials of recorders

AA	Adams, A.
AB	Bristow, A.
AFW	Wallis, A.F.
AGJB	Butcher, A.G.J.
AH	Hopkins, A.
AHD	Dobson, A.H.
AJB	Bradshaw, A.J.
ALC	Cooper, A.L.
AMB	Banthorpe, A. & M.
AMD	Davis, A.M.
AMH	Hoare, A.M.
ANG	Graham, A.N.
AP	Patterson, A.
AR	Rouse, A.
ARC	Collins, A.R.
ASE	Ezard, A.S.
ASP	Park, A. & S.
AWP	Prichard, A.W.
BBa	Banson, B.
BBo	Boothroyd, B.
BD	Dickerson, B.
BE	Elliot, B.
BFS	Skinner, B.F.
BH	Hancock, B.
BM	Morland, B.
BRS	Spence, B.R.
CA	Atkins, C.
CB	Bentley, C.
CD	Dawson, C.
CHF	Fletcher, C.H.
CI	Ireland, C.
CM	Moore, C.
CRP	Pratt, C.R.
CT	Toosey, C.
CWP	Plant, C.W.
DA	Allen, D.
DB	Beck, D.
DC	Crawley, D.
DCGB	Brown, D.C.G.
DE	Evans, D.
DGG	Green, D.G.
DH	Houghton, D.

DJAT	Tinling, D.J.A.
DJK	Kingman, D. & J.
DL	Lee, D.
DS	Shenton, D.
DU	Urquart, D.
DVM	Manning, D.V.
DW	Walker, D.
DWJ	Jenner, D.W.
EC	Carpenter, E.
EO'D	O'Donnell, E.
FS	Solly, F.
FTJ	Johns, F.T.
GAC	Collins, G.A.
GAH	Henwood, G.A.
GB	Bailey, G.
GBH	Hocking, G.B.
GD	Davis, G.
GJD	Dennis, G.J.
GJJ	Jarvis, G. & J.
GL	Lyons, G.
GMH	Haggett, G.M.
GMT	Tordoff, G.M.
GS	Smith, G.
GSAS	Spraggs, G.S.A.
GW	Wright, G.
HEB	Beaumont, H.E.
HWH	Wood-Homer, H.
IB	Barton, I.
ICH	Hancock, I.C.
IDF	Ferguson, I.D.
IDH	Hunter, I.D.
IDM	Masters, I.D.
IF	Fletcher, I.
IL	Lang, I.
IM	Machin, I.
IPW	Woiwod, I.P.
JA	Andrews, J.
JAC	Christlieb, J.A.
JAM	Mason, J.A.
JB	Bebbington, J.
JBH	Higgott, J.B.
JCM	Mason, J.C.
JCN	Nicholls, J.C.
JEC	Chainey, J.E.
JEO	Owen, J.E.
JH	Halsey, J.
JJG	Geeson, J.& J.
JK	Knowler, J.
JL	Lerpiniere, J.
JP	Porter, J.
JRL	Langmaid, J.R.
JS	Scanes, J.
JSB	Badmin, J.S.
JTR	Radford, J.T.
JW	Wheeler, J.
KAS	Spicer, K. & A.
KC	Clarkson, K.
KEN	Noble, K.E.
KG	Godfrey, K.
KH	Herber, K.
KJP	Plumridge, K.J.
KK	Knights, K.
KNA	Alexander, K.N.
KR	Redshaw, K.
KW	Wheeler, K.
KZ	Zealand, K.
LACT	Truscott, L.A.C.
LHO	Oakes, L. & H.
LJF	Finch, L.J.
LJH	Hill, L.J.
LM	Marshall, L.
MAS	Snelling, M.A.
MAW	Wilkins, M.A.
MB	Blencowe, M.
MC	Cade, M.
MCH	Harvey, M.C.
MCM	Marsh, M.C.
MDC	Clark, M. & D.
MEH	Hicks, M.E.
MEW	Wrake, M.E.
MFS	Stoyle, M.F.
MFVC	Corley, M.F.V.
MJ	Jeffes, M.
MJD	Deans, M.J.
MLO	Opie, M.L.
MN	Newcombe, M.
MP	Phillips, M.
MRY	Young, M.R.
MS	Skelton, M.
MSP	Parsons, M.S.
MT	Tunmore, M.
MVA	Albertini, M.V.
MWS	Storer, M.W.
NAJR	Rogers, N.A.J.
NB	Bowman, N.
NM	Montegriffo, N.
NO	Odin, N.
NS	Sherman, N.
NWH	Hiles, N.W.
OW	Wadsworth, O.
PAC	Crowther, P.A.
PB	Beraet, P.
PC	Clarke, P.
PD	Durnell, P.
PDG	Green, P. & D.
PDMC	Costen, P.D.M.
PH	Harris, P.
PM	Milton, P.
PMW	Walsh, P.M.
PP	Pugh, P.
PQW	Winter, P.Q.
PRW	Williams, P.R.
RA	Arthur, R.
RB	Bartlett, R.
RC	Coomber, R.
RE	Eden, R.
REJ	Jones, R.E.
RGG	Gaunt, R.G.
RH	Hayward, R.
RIS	Rothamsted Insect Survey
RJB	Bartlett, R.J.
RMH	Harvey, R.M.
RR	Roebuck, R.
RRC	Cook, R.R.
RT	Taylor, R.
RW	Wilson, R.
SAK-J	Knill-Jones, S.A.
SI	Ingram, S.
SJB	Broyd, S.J.
SMG	Suffolk Moth Group
SMP	Palmer, S.M.
SPC	Clancy, S.P.
SR	Rolls, S.
SS	Sexton, S.
ST	Teale, S.
SW	Wright, S.
TB	Bryant, T.
TC	Crawford, T.
TCS	Sexton, T.C.
TDC	Codlin, T.D.
THF	Freed, T.H.
TJB	Barker, T.J.
TJN	Norriss, T.J.
TJT	Tams, T.J.

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Butterflies in south-east Fylde, Lancashire – 2004 to 2011

The annual *Lancashire, Manchester and Merseyside Butterfly and Moth Recording Report* provides, amongst other things, a brief summary of records for each butterfly species in the area for the year, together with distribution maps showing records on a tetrad (2km square) basis. As with all recording schemes, the records can only reflect the activity of recorders and in my local area the records were particularly sparse. So, I decided to undertake a systematic review to provide a more complete record of current status and provide a baseline against which future records can be compared.

The study area. I selected the 10km O. S. grid square SD43 as the survey area. It lies in the south-east of the Fylde coast peninsula in western Lancashire. The area is largely rural, with the small town of Kirkham (population *c.*7,000) the only significant urban concentration. Much of the area has been drained and now comprises productive farmland, mainly dairy pasture. The Lancaster Canal passes through the eastern part and the area also includes Carr House Green Common, near Inskip, an area of unimproved marsh and grassland.

Coverage. Due to family and work commitments the time available to carry out the survey was limited. Over eight years I managed just 145 hours of fieldwork. Thus, it is likely that the distribution of some of the species is understated as a result. However, the objective of the exercise was achieved and overall the data provide a good overview of distribution during the period of the survey.

The Records. The basis of recording was the standard tetrad (2 x 2 kilometre) system. The 25 tetrads in each 10km square are assigned identifying letters from A to Z, omitting O, from south-west to north-east, running northwards in five consecutive columns.

In total, twenty species were recorded (16 residents, three immigrants and one vagrant/resident). Of these, 11 (nine residents, two immigrants) were ubiquitous (recorded in all 25 tetrads). A further three resident species were widespread, recorded in 72% to 80% of tetrads and may also be ubiquitous. Four residents were recorded in 35% to 50% of tetrads. One migrant (Clouded Yellow) was recorded in just two tetrads and the vagrant/possible resident (White-letter Hairstreak) was based on a single adult. The species numbers for each tetrad ranged from 13 to 18; the overall total of 375 species/tetrad records gives an average of 15 species per tetrad.

Individual Species Records. Speckled Wood *Pararge aegeria* (L.) Ubiquitous. Resident. Maximum count: 18 at Wharles/Treales, tetrad M, 4.ix.2005.

Wall *Lasiommata megera* (L.) Resident. Recorded in 9 tetrads. Maximum count: four at Inskip, tetrad U, 23.viii.2008.

Meadow Brown *Maniola jurtina* (L.) Resident. Ubiquitous, but not as numerous as formerly. Maximum count: 40 at Espric, tetrad D, 3.vii.2010.

Gatekeeper *Pyronia tithonus* (L.) Resident. Ubiquitous, occasionally in large numbers. Maximum count: 93 at Newton with Scales, tetrad K, 1.viii.2004.

Red Admiral *Vanessa atalanta* (L.) Immigrant. Ubiquitous. Maximum count: eight at Medlar, tetrad H, 30.vii.2011.

Painted Lady *Vanessa cardui* (L.) Immigrant. Ubiquitous. Maximum count: 96 at Roseacre tetrad N, 01.viii.2009. In 2009 this species was present in large numbers throughout SD43 from late May continuously until October, as part of a significant, immigration but with clear evidence of local breeding.

Small Tortoishell *Aglais urticae* (L.) Resident. Ubiquitous. Maximum count: 34 at Esprick, tetrad D, 03.vii.2010.

Peacock *Inachis io* (L.) Resident. Ubiquitous. Maximum count: 52 at Carr House Green Common, Inskip, tetrad T, 11.viii.2007.
Resident. Widespread and recorded in all 25 tetrads.

Comma *Polygonia c – album* (L.) Resident. Recorded in 18 tetrads. Maximum count: four at Bartle, tetrad W, 23.vii2006 and Roseacre, tetrad I, 25.vii.2009. Probably ubiquitous but much less numerous than Small Tortoishell and Peacock – generally seen as singles or in small number.

Common Blue *Polyommatus icarus* (Rott.) Resident. Recorded in 13 tetrads. Maximum count 20, at Medlar, tetrad C, 08.viii.2010.

Holly Blue *Celastrina argiolus* (L.) Resident. Recorded in nine tetrads. Maximum count: three at Newton with Scales, tetrad K, 04.viii.2004.

Small Copper *Lycaena phlaeas* (L.) Resident. Recorded in 18 tetrads and probably ubiquitous. Maximum count: 11 at Medlar, tetrad C, 08.viii.2010. Generally only present in small numbers, but occasional population "explosion". Outside the recording period, in autumn 1995, a total of 86 adults were recorded in a small area at Carr House Green Common, Inskip on 17 September, with at least 55 there on 31 August 1996.

White Letter Hairstreak *Strymonidia w-album* (L.) Vagrant (possible resident?). A single adult was recorded near Medlar in tetrad C on 8.viii.2010. Another observer recorded a single at Ribby, near Kirkham, tetrad F, in July 2004.

Large White *Pieris brassicae* (L.) Resident. Ubiquitous. Maximum count: 17 at Treales tetrad L, 7.viii.2005.

Small White *Pieris rapae* (L.) Resident. Ubiquitous. Maximum count: nine at Roseacre, tetrad N, 1.viii.2009.

Green-veined White – *Pieris napi* (L.) Resident. Ubiquitous. Maximum count: 64 at Inskip, tetrad P, 1.viii.2009. Generally, the most numerous of the three common "white" species.

Orange Tip – *Anthocharis cardamines* (L.) Resident. Ubiquitous. Maximum count: 15 at Lancaster Canal, tetrad S/X, 25.iv.2011. Generally present in small numbers, much less numerous than the common "whites" but with larger numbers than usual in the good weather of late April 2011.

Clouded Yellow *Colias croceus* (Geoff.) Rare migrant, only recorded as two singles – one at Treales, tetrad L, on 21.viii.2006 and one at Elswick, tetrad J, on 25.vii.2009.

Small Skipper *Thymelicus sylvestris* (Poda) Resident. Recorded in 10 tetrads. Maximum count: 34 at Ribby, near Kirkham, tetrad A, 23.vii.2010. A relatively new arrival to the area.

Large Skipper *Ochlodes faunus* (Turati) Resident. Recorded in 20 tetrads. Probably ubiquitous. Maximum count: 12 at Lea/Savick Brook, tetrad V, 17.vi.2006. Usually present in small numbers.

Other species. My earlier records show that the Small Heath *Coenonympha pamphilus* occurred in at least three different locations in the area up to June 1993 but the species was not recorded during the survey period.

The *Lancashire, Manchester and Merseyside Butterfly and Moth Recording Report* highlights two records of Brimstone, *Gonepteryx rhamni* in the area during the recording period. These were by the Lancaster Canal (tetrad W) in 2005 and Carr House Green Common, Inskip (tetrad T) in 2007.

Discussion. I recorded twenty species in the area during the period 2004 to 2011. Of these 16 are resident, three are migrants and one a vagrant or possible resident. The majority of species (70%) are widespread occurring in all or most tetrads. A further four species are more local, occurring in between a third and a half of all tetrads.

Over the last 30 or so years there has been a significant increase in the number of species occurring in the recording area with eight new arrivals and just one loss, the Small Heath, with the Wall seemingly in decline but still present in small numbers in at least nine tetrads. My records indicate eight apparent new arrivals to the area in the last 30 or so years, namely Speckled Wood, Gatekeeper, Peacock, Comma, Holly Blue, Orange Tip, Large Skipper and Small Skipper. Some of these may have been present previously and represent a return to the area following a period of range contraction, for example, Comma, but others may be appearing for the first time, perhaps spreading north in response to climatic change. In any event this represents a welcome increase in the variety of species in the area.

The publication of current status in this summary is intended to provide a firm basis for assessing changes in future. Detailed site records are available which may provide useful evidence to support the protection of habitats should they be threatened, for example, by proposed developments.

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NOTES ON THE APPARENT STATUS OF *AGONOPTERIX ATOMELLA* (D.& S.) (LEP.: DEPRESSARIIDAE)

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Abstract

Recent British records of *Agonopterix atomella* (D.& S.) were collated. Surprisingly, this species is currently known from just five sites. A plea for further recording is made.

Introduction

Agonopterix atomella (D.& S.) was added to the UK Biodiversity Action Plan (UK BAP) in 2007, justified on the basis of a marked decline of the species and its foodplant, Dyer's Greenweed *Genista tinctoria*, in the UK. Supporting information suggested that this moth could act as a useful flagship for species associated with Dyer's Greenweed, several of which were considered to be scarcer than *A. atomella*, and thereby could be a useful tool for the conservation of the fauna of Dyer's Greenweed as a whole.

Harper, Langmaid & Emmet (2002) highlighted 29 vice-counties on the distribution map, with records of *A. atomella* from southern and south-eastern England, through parts of the south Midlands and East Anglia, from Cheshire north to the borders, and also from Monmouthshire and Pembrokeshire in Wales. They also state that it is "a declining species in recent years owing to the destruction of many of its habitats". A brief look at some of the relevant county lists backed up this perceived decline. In Essex the last record was from the 19th century (Goodey, 2004); the last Berkshire

Plate 1. Habitat of *Agonopterix atomella*, Dorset, June 2012. The ground is carpetted by larval foodplant.

record was from 1955 (Baker, 1994); the last Gloucestershire record is given as 1961 (Gaunt, 2006); the last from the Isle of Wight is given as 1969 (Goater, 1974); the last Monmouthshire record is given as 1977 (Neil Horton, 1994); and Goater (1992) gives the last Hampshire record as 1985.

Of the plant, Preston, Pearman & Dines (2002) state that "*This species has declined considerably since the 1940s through the loss of old pastures*", adding it "*is now a rare sight in some counties*".

Methods

During the winter of 2012/2013 a database of records of *A. atomella* was compiled, including only data back to 1970. Records at hand (from recent survey or records already supplied to Butterfly Conservation staff) were compiled and revealed a total of only 14 sites. The relevant county recorders (based on the Harper, Langmaid & Emmet (2002) map) and key recorders were then contacted and asked to check the database for accuracy and to supply details of any additional records.

Results

Not surprisingly, additional records (and some questions) were returned as a result of the call for data. This resulted in records from 12 vice-counties from 1970 onwards (with a record for an additional vice-county awaiting confirmation), covering 18 sites (and a possible two additional sites), including records north to Northumberland. However, if only those records from 2000 onwards are taken into account then the moth is only known from five sites in just three vice-counties; South Somerset (one site), North Wiltshire (one site) and Dorset (three sites).

Discussion

As suggested above, when added to the UK BAP, this species was thought to be a potentially good flagship for species associated with Dyer's Greenweed, on account

Plate 2. Larva of *Agonopterix atomella*, Dorset, 2012.

of it being relatively widely distributed (more so than other restricted species, for example *Coleophora vibicella* (Hb.) and *Grapholita lathyrana* (Hb.)), yet meeting the decline criteria. The finding that this species was currently only known from five sites was an unexpected result. Indeed based on this it appears to be scarcer than *C. vibicella* (currently known from eight sites in four vice-counties).

However, whilst the foodplant has declined and sites may well have been lost, it is expected that there are sites supporting the moth that are awaiting discovery/re-discovery. There are at least an additional four sites with records between 1990 and 1999 (Dorset, South Hampshire, East Sussex and Westmorland) and possibly also a site in Co. Durham, but for which there are no 2000 onwards records; these are clearly priorities for future survey. There are a few other sites that previously supported the moth and still have the plant. Unlike *C. vibicella*, which is relatively easy to find where it occurs, *A. atomella* requires a bit of effort, being best found in the larval stage. Consequently, it is thought that this species is probably under-recorded.

We are, therefore, encouraging survey for this moth in order to get a better understanding of its current status and distribution. If you do find this species then please let us know. It is, of course, possible that records have been missed during the data trawl. If you are aware of any records that we may not have received, then please let us know.

A fact sheet concerning species associated with Dyer's Greenweed is available from *www.butterfly-conservation.org*

Acknowledgements

We would like to take the opportunity to thank the following for supplying data or answering queries relating to *A. atomella* for this note: M. Albertini, T. Barker, G. A. Collins, I. D. Ferguson, C. Fletcher, T. Frost, R. J. Heckford, M. Jeffes, P. King, Dr J. R. Langmaid, S. Palmer, C. R. Pratt, T. Prichard, K. Regan, Dr A. N. B. Simpson, M. Smith, T. Tams & M. Wall. Butterfly Conservation would like to thank Natural England for its continued support of the Action for Threatened Moths Project.

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DEPRESSARIA PYRENAELLA SP. N. – A CONFUSED SPECIES FROM SOUTH-WESTERN EUROPE (LEP. : DEPRESSARIIDAE)

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Abstract

Depressaria pyrenaella Šumpich, sp.n. is described from Spain and France, where it was found at higher elevations of the Pyrenees. The new species is illustrated in colour and compared with similar and related species and its male genitalia are pictured. The first record of *Depressaria cervicella* Herrich-Schäffer, 1854 from the European part of Russia is given.

Keywords: Lepidoptera, Depressariidae, *Depressaria pyrenaella,* new taxon.

Introduction

The family Depressariidae contains a number of conspicuous and attractive species but, to date, has not been critically overhauled taxonomically, for the Palaearctic or even in Europe. Many groups of familiar species require a thorough revision or, in contrast, many conspicuous species remain unnamed as a consequence of avoiding the description of a species already defined. During my visit to The Natural History Museum in London in 2008, I had an opportunity to study microlepidoptera collections there. Among others, I noticed a Spanish specimen included, tentatively, with *Depressaria zelleri* Staudinger, 1879, but being remarkably different from the typical form. Several years later I found the same species while studying collections of the Naturhistorisches Museum in Vienna. There it was classed as *Depressaria cervicella* Herrich-Schäffer, 1854 from which it was hard to distinguish. After a comparative study of genitalia in relative and similar species and a revision of available literature it was apparent that this was a new, undescribed species.

Material and Method

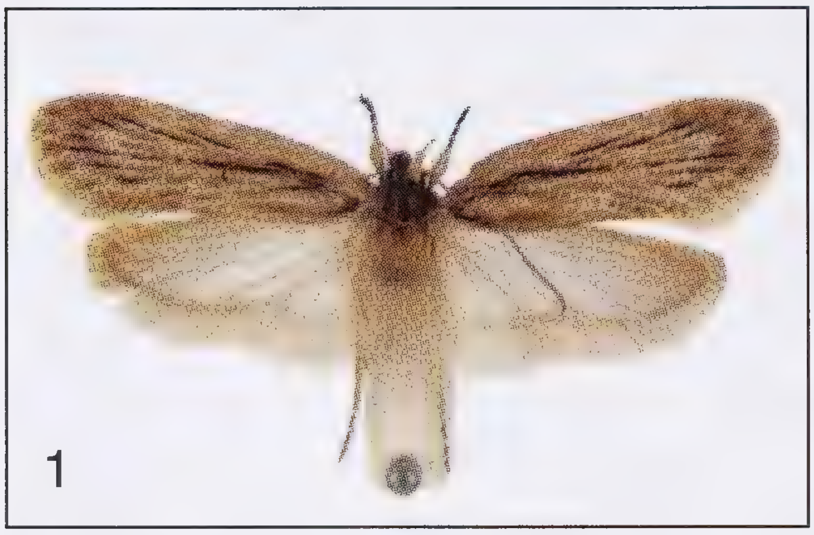
The study material is deposited in collections abbreviated as follows:

BMNH	The Natural History Museum, London, UK
MZMB	Moravian Museum, Brno, Czech Republic
NHMW	Naturhistorisches Museum, Wien, Austria
ZSM	Zoologische Staatssammlung, Munich, Germany
J. Ylla	Barcelona, Spain

Results

Depressaria pyrenaella Šumpich, sp. n.

Material Spain: Holotype (Plate 1, fig. 1): ♂, "Jaca-Spain | 10.8.1933 | W. Fassnidge", "B.M. ♂ | Genitalia Slide | No. 19153" (BMNH). Paratypes (Plate 1, figs 2–3): 1 ♂, Catalonia, Carretera de la Molina a Castellar de n´Hug (Burguedà), 1695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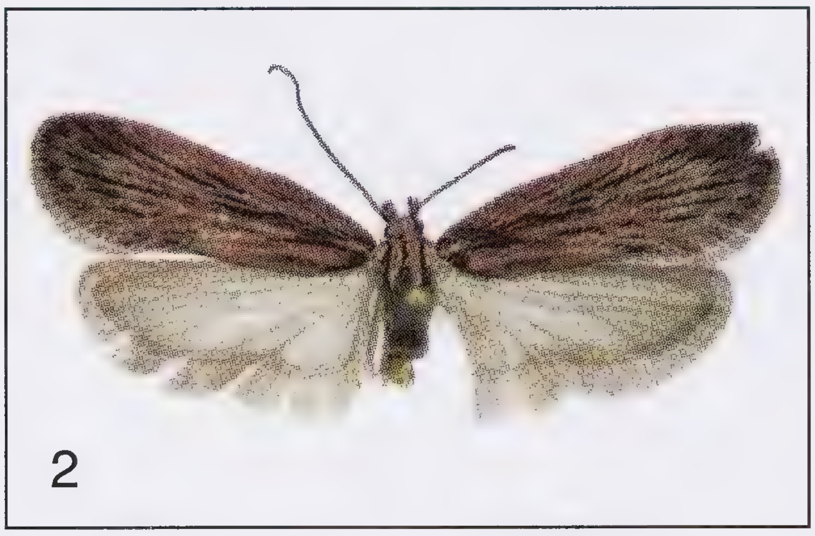
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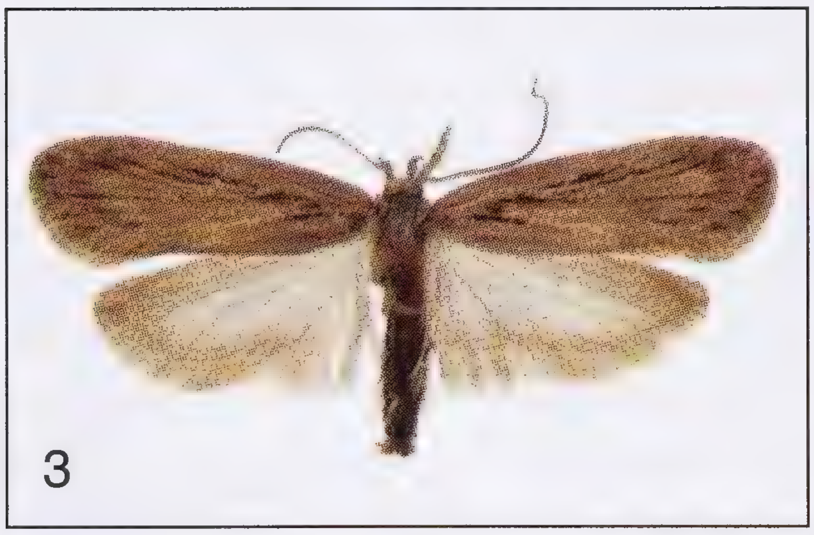
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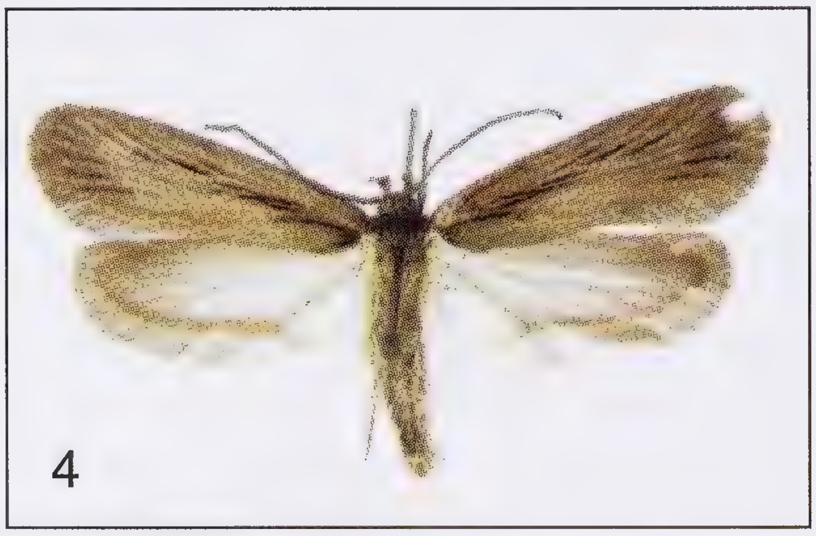
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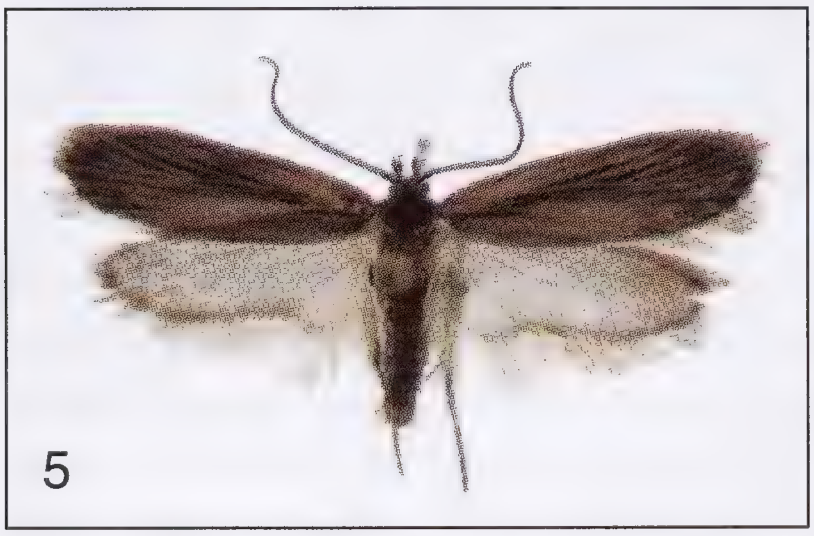
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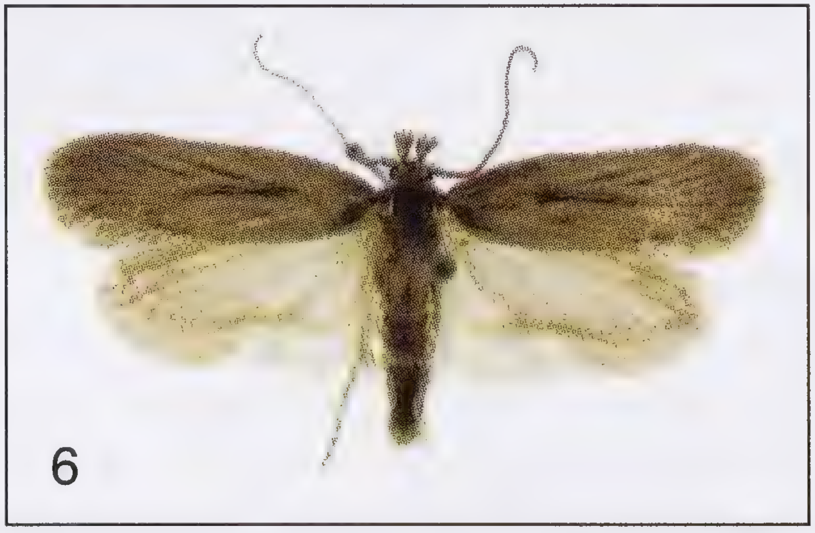
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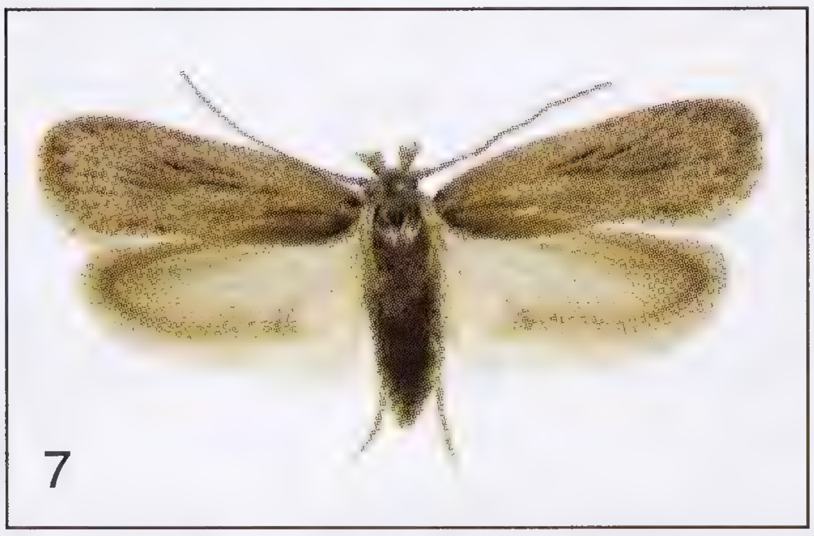
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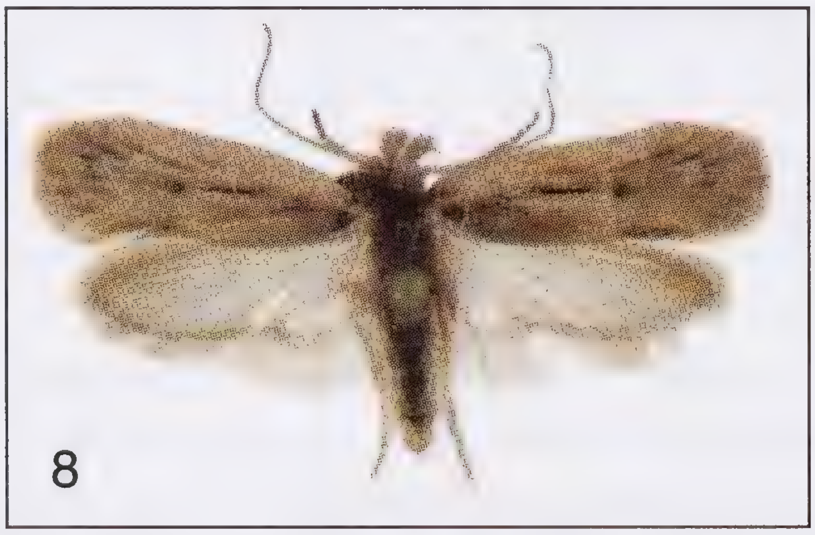
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Plate 1. Figs. 1–8. Adults of *Depressaria* species. 1–3. *D. pyrenaella* Šumpich, sp. n., males. 1. Holotype, 29 mm. 2. Paratype, Spain, 29 mm. 3. Paratype, France, 30 mm. 4–5. *D. cervicella* Herrich-Schäffer, 1854, males. 4. Czech Republic, Mohelno, 1945, D. Povolný leg., coll. MZMB, 27 mm. 5. Russia, southern Ural, Kizilskoe, 19.vii.2011, J. Šumpich leg., det. et coll., 25 mm. 6–8. *D. zelleri* Staudinger, 1879, males. 6. Turkey, Amasia, [18]82, ex coll. Staudinger, coll. BMNH, 25 mm. 7. Italy, Trento, Mte Calisio, ex larva 15.vii.1949, J. Klimesch leg., coll. ZSM, 25 mm. 8. Italy, Verona distr., Monte, 3.vii.2012, J. Skyva leg. et coll., 26 mm.

m, 4.viii.2005, A. Cervelló leg., coll. J. Ylla; 1 ♂, **France,** Pyr[énées]-Or[ientales], Vernet[-Les-Bains], August 1924, Predota leg. (NHMW).

Description: Wingspan 29–30 mm. Head and frons covered with creamy scales. Palpi creamy, generally darker than in *D. zelleri*, with an addition of remarkably brown scales, even on the last segment (the last segment unicolourous light cream in *D. zelleri*). The second palpal segment is covered with a fan of scales, which is clearly less feathery than in *D. zelleri*. Antennae brown, filiform, slightly annulate. Thorax rather narrow, appearing less robust than in *D. zelleri*. Forewings narrow, light brown to brown (rather grey in *D. zelleri*), with the venation markedly dusted with black scales, similarly as in *D. cervicella*. In *D. zelleri*, the dusting is usually less apparent and often interrupted, in aberrant specimens even lacking. Hindwings silvery white, darkened at front margin and apex. Cilia of the same shade as wings.

Male genitalia (Fig. 2). Valva very broad, terminating apically with a pointed, slightly deflected projection. Dorsal valval edge with an apparent small rib-like projection medially. The space between the projection and the apex of valva conspicuously convex (indistinctive in *D. zelleri)*. Cuiller minute. Clavus short and pointed. Tegumen narrow and high. Gnathos broadly oval (more elongated in *D. zelleri*), socii thin, long (thinner than in *D. zelleri*). Aedeagus thin, twice slightly deflected, pointed at the end, with two groups of cornuti – the first as a fan of spines pointing to the end of aedeagus, the second as a row of short spines crossing the aedeagus (both groups of cornuti are more compact and cramped in *D. zelleri*).

Female genitalia. Unknown.

Diagnosis: The new species (Plate 1, figs 1–3) is very similar externally to *D. cervicella* (Plate 1, figs 4–5), from which it is reliably distinguishable by differences in genitalia. *D. cervicella* belongs to the group of species with an undeveloped clavus. It has one strong and elongated cornutus inside the phallus. *D. pyrenaella* sp. n. is closest to *D. zelleri*, with very similar male genitalia, but in *D. zelleri* the front edge of the valva is only slightly rounded, without an apparent projection and the gnathos is elliptical and more elongated. The new species is also markedly bigger than *D. zelleri* (Plate 1, figs 6–8) and its wing venation is dusted more conspicuously.

Distribution: Pyrenees: Spain (Catalonia, Aragon), France (Region of Languedoc-Roussillon) (Fig. 1).

Derivatio nominis: The specific name is derived from the mountains where the type material was collected.

Life history: Unknown. The locality of the holotype – Jaca (800 metres asl.) – is situated in a mountainous landscape on the south-western foothills of the Pyrenees where the collector William Fassnidge stayed during language visits combined with entomological research in 1931 and 1933. His collecting activities covered wide areas, mostly at higher altitudes than the town of Jaca (Fassnidge, 1934–1935). The paratype from Spain was captured at 1700 metres. The locality of the French paratype (collected by Karl Predota) close to Vernet-Les-Bains is situated at c.700 metres. All specimens were recorded in August.

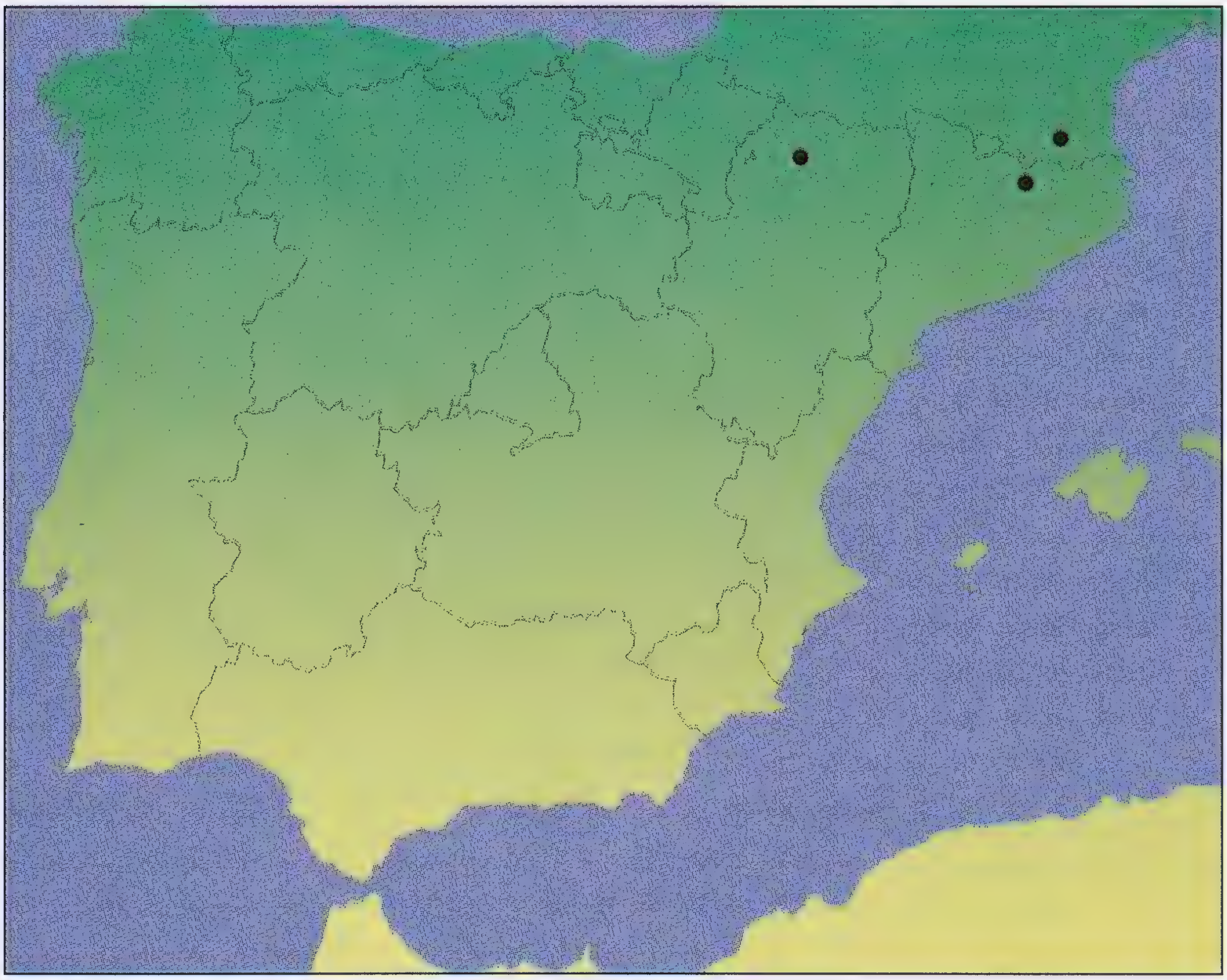

Figure 1. Distribution map of *Depressaria pyrenaella* Šumpich, sp.n.

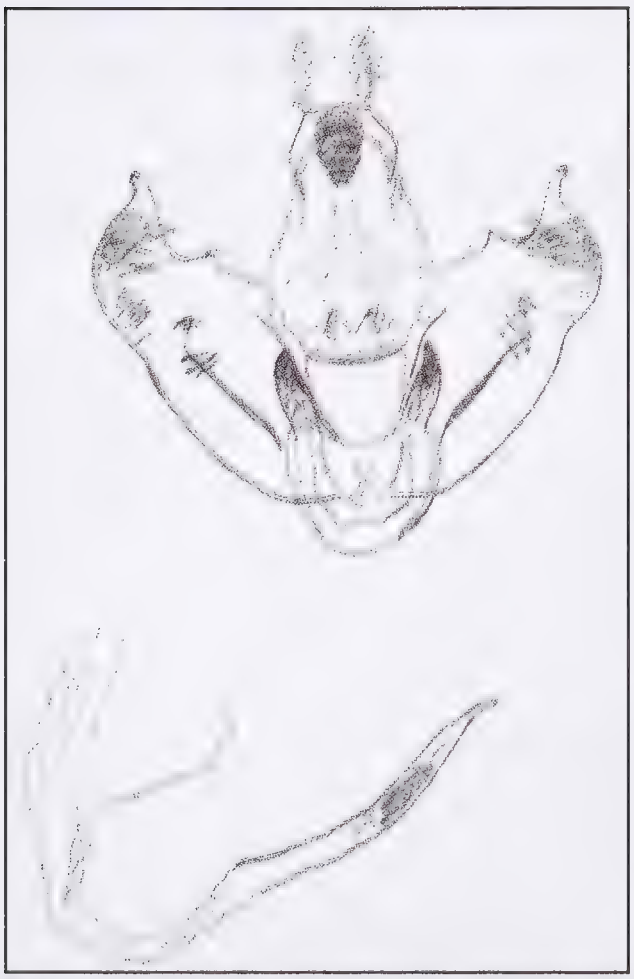

Figure 2. Male genitalia of *Depressaria pyrenaella* Šumpich, sp. n. (drawing from slide no. 19153 in coll. BMNH).

Remarks: *D. zelleri* was described from Turkey (Amasia). Later it was found by J. Klimesch in northern Italy (Klimesch, 1953, as *D. cervicella*) and lately the species was confirmed also from Romania (Lvovsky, 2001) and southern France (Grange et al., 2011), which includes a photograph and drawing of male genitalia of the French specimen, both corresponding with typical Turkish specimens of *D. zelleri*. The occurence of *D. zelleri* in Spain has to be regarded as unconfirmed, since the specimen published by Ylla & Macià (2008; male genitalia pictured in the paper) actually belongs to the newly described species. The distribution of *D. cervicella* is the most extensive of the three mentioned species and covers Mongolia, Iran, Turkey and the Asian part of Russia (Читинская областъ) (cf. Lvovsky, 2001); in Europe it is reliably known from the central zone (Czech Republic, Austria, Hungary) and also from Italy, Croatia (Lvovsky, 2011. *http://www.faunaeur.org/* accessed 24 December 2012) and the European part of Russia (this paper, Plate 1, fig. 5). Spanish voucher specimens identified as *D. cervicella* need revision because of possible confusion with the newly described species. Based on available material it appears that *D. pyrenaella* sp. n. could be endemic for the Pyrenees and their foothills, as are a number of other taxa. To confirm this hypothesis, more material is needed.

Acknowledgements

I thank colleagues Arcadi Cervelló (Barcelona) for loan of the study material and Josep Ylla (Barcelona) who permitted me to use his photographs of *D. pyrenaella* sp. n. Cordial thanks belong to Kevin Tuck (London) and Sabina Gaal (Wien) for enabling the study of microlepidoptera deposited, respectively, at The Natural History Museum, London and Naturhistorisches Museum, Wien and for lending specimens. I am also grateful to my colleague J. Skyva for the loan of study material of *D. zelleri*. To Petr Heřman I am obliged for the help with English.

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CHILADES TROCHYLUS (FREYER, [1845]) (LEP.: LYCAENIDAE) CONFIRMED FOR THE BULGARIA FAUNA AND DOUBT CAST ON EARLIER RECORDS OF THIS AND OTHER SPECIES

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Abstract

Chilades trochylus (Freyer, 1845) is positively recorded for the fauna of Bulgaria. A previous record is probably the result of mislabelling. The validity of some past records made by Alexander Slivov are discussed. The rule that a temporary label should be unequivocally associated with a specimen immediately on capture is reinforced by this experience.

Keywords: *Chilades trochylus*, Lycaenidae, Polyommatinae, Bulgaria.

Introduction

Chilades trochylus (Freyer, 1845) has been reported from Bulgaria once only: Slivov and Abadjiev (1999) reported a specimen labelled "*Veleka, 16 6.1968, A. Slivov leg.*". This site lies on the southern Black Sea coast, near the mouth of the Veleka River between the town of Ahtopol and the village of Sinemoretz. However, it is known that Slivov made a number of unfortunate labeling errors involving Bulgarian and non-Bulgarian specimens and so the record is treated by us as unconfirmed.

However, we are now able to provide a positive record of this species in Bulgaria. A field trip to the south-west of the country to undertake video recording of Bulgarian butterflies was arranged by the British-Bulgarian Society for 23 June to 15 July 2012. On 6 July, in the surroundings of Chuchuligovo Village, field observations of butterflies were conducted and a single example of *Chilades trochylus* was found and photographed. Shortly afterwards, when photography had concluded, three more examples were noted nearby. The site is situated at an altitude of about 70-110 metres, close to the Bulgarian-Greek border, approximately 2 km north of the Kulata, at the Promachonas border pass (41°24'33.49" N: 23°21'54.37" E). The surrounding countryside consists extensively of agricultural land and scrub/xerothermic grassland communities of *Dichantium ischaemum*, *Poa bulbosa* mixed with *Paliurus spina-christi* and *Juniperus oxycedrus*. Smaller areas are covered by forests of *Quercus pubescens* and *Q. virgiliana* containing Mediterranean floral elements. The weather was dry and hot, even in the morning – about 29ºC. In the morning *Chilades trochylus* specimens were quiet and not especially active and all observed specimens could be documented by photography and video recording by several people. As the day wore on, the increasing temperature allowed them to become active and it was difficult to spot them in the tall grassland vegetation.

Identification

Chilades trochylus is the smallest European butterfly. It is a species easy to identify, even from a photograph; misidentification is just impossible! The forewing length is 8-9mm. The hind-wing underside (Plate 1) has four large orange submarginal ocelli, each containing a large black spot that is ringed with metallic green-blue. The upperside is brownish, with similar location of the spots and ocelli on the hind-wing. The specimens observed correspond exactly with the illustrations in Tolman (2001), Tolman & Lewington (2009), Lafranchis (2004) and Tshikolovets (2011). The species is otherwise recorded in Europe from Greece and Turkey.

Discussion

The report of this species by Slivov, given in Abadjiev and Slivov (1999), is the likely result of the mislabelling of a specimen not originating from within Bulgaria. Beshkov (2000) expressed the opinion that some of the materials in Slivov's collection appeared to bear incorrect data; a number of discrepancies were apparent between labels and published texts whilst some data are simply not believable. This mislabelling undoubtedly arose as a result of carelessness on the part of technicians who were employed by the former Institute of Zoology (now the Institute of Biodiversity and Ecosystem Research, Sofia), to set and label insect specimens and does not imply incompetence on the part of Slivov. Kolev (2002) discussed in detail the recently published "*new species for Bulgaria*" originating from the collection of Slivov, all of which appeared to be the result of proven or suspected errors in the label data. He expressed the opinion that these species had not been collected in Bulgaria. One of these species is indeed *Chilades trochylus*. According to Kolev, the records based on such material should, in the absence of independent confirmation, be considered highly doubtful and preferably disregarded altogether. He counted about 60 further cases of erroneous or doubtful labelling of butterflies collected by Slivov.

The extent of the mislabelling seems to include material donated from abroad. During July 2011, Zoltan Varga (Debrecen, Hungary) visited SB in Sofia and shared with him the fact that a long time ago he presented to Slivov some Noctuidae material, including *Chersotis alpestris* (Boisduval, 1837), *Chersotis andereggii* (Boisduval, 1832) and *Gortyna borelii lunata* Freyer, 1839, collected by him in Hungary and in the Alps. These species are present in the collection of Alexander Slivov, but bear labels from Bulgaria! SB even illustrated male genitalia of *C. alpestris* and published it as new for Bulgaria. Even more strange is the situation with *G. borelii*. In the Slivov collection is a single male specimen of *G. borelii* from the Kresna Gorge, collected at Stara Kresna Railway Station, 28-29.ix.1976, leg. Al. Slivov. According to Slivov (1984), this specimen was collected at sugar. Kresna Gorge is an extremely well-explored area, but no one else has collected *G. borelii* there. It is perhaps relevant that specimens for this, and for other material that bears a label which indicates they were collected by Varga in Hungary or the Alps, are curiously absent.

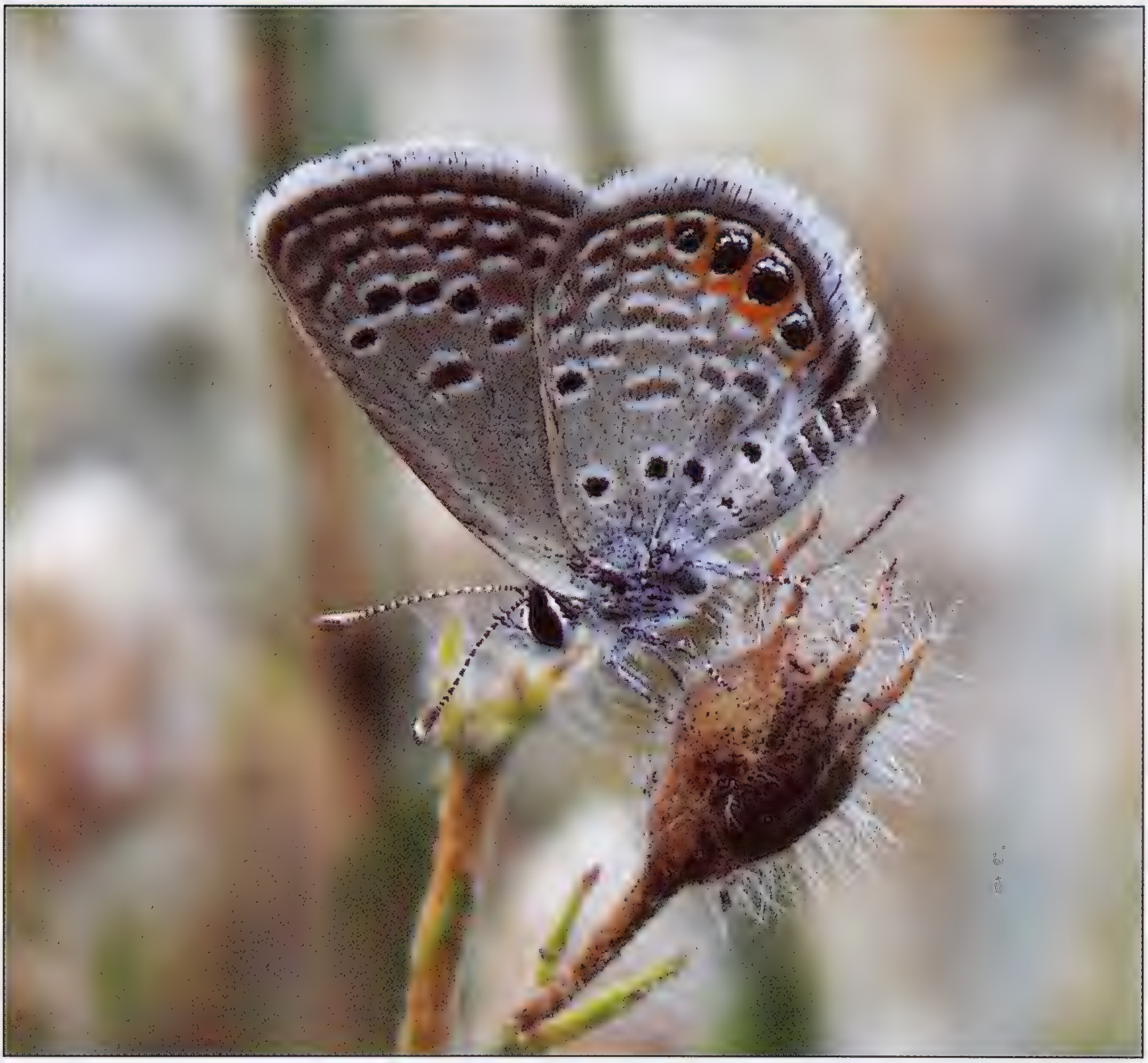

Plate 1. *Chilades trochylus* (Freyer, [1845]). Blagoevgrad district, 1 km NE of Chuchuligovo Village, 110 metres, 6.vii.2012. Photograph © Assen Ignatov.

How could this have happened? In July, 2011, Varga donated specimens of *Erebia neleus* (Freyer) from the Retezat Mountains of Romania to SB. This is a species in the group that includes *Erebia tyndarus* (Esper) under which name it appears in some older literature. It is also confused with *Erebia cassioides* (Hohenwarth) and recent molecular studies indicate it should be further divided. It is one of the most local *Erebia* species in the Bulgarian fauna. These specimens were collected and pinned by Varga on his way to Bulgaria, but were not labelled. SB asked him for the data and Varga wrote it on a map. Later SB mounted the specimens and put them in a box together with other material, including *Erebia* spp., identified with a common label. When the individual labels were printed and SB set about attaching these to the specimens, four *Erebia* specimens were noticed as belonging to another series. These were Varga's *E. neleus* from Romania; they had been in danger of being included under the common label designating Bulgarian material in the same box. SB was unable to locate the map with the hand written label by Z. Varga and the specimens have had to be labelled imprecisely. If SB were not so knowledgeable, or the specimens had been left longer, the *E. neleus* could have been wrongly attributed to Bulgaria. Perhaps this is not the only time Z. Varga donated unlabelled material, and we believe such material may have also been given to Slivov. The rule that a temporary label should be unequivocally associated with a specimen immediately on capture is reinforced by this experience.

Conclusions

The reliability of the labelling of material in the Slivov collection is low and we call on authors to abstain from publishing further doubtful data from this source or subsequently using any such published records. The misreporting of the 1968 specimen of *Chilades trochylus* is representative of the problems that can arise and data published in recent literature that is based on Slivov's material (e.g., Tolman, 2001; Tshikolovets, 2011) should also be treated as suspect.

At present, *Chilades trochylus* is known for Bulgaria only from the single locality near Chuchuligovo Village.

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Idaea elongaria (Rambur, 1833) (Lep.: Geometridae) in Wiltshire, a new species for the British Isles

On 21 June 2012 I visited Wayne Clinch, of Covingham, Swindon, North Wiltshire to identify some of the moths he had recently taken at home. One was an *Idaea* species which he had tentatively thought was a 'funny' Small Dusty Wave *I. seriata* (Schrank). He had taken the moth in the Skinner trap in his garden on 19 June 2012. I immediately knew it was not *I. seriata* so retained it to make a definite determination. My initial examination proved inconclusive so the specimen was set and then compared with the other *Idaea* species I have in my Wiltshire collection and with the specimens illustrated in Skinner (2009, *Colour Identification Guide to Moths of the British Isles*. I still could not find a satisfactory match. Eventually, in November 2012, I took the moth to Martin Corley, who is an authority on the moths of Portugal and has reference material and literature. MC immediately thought the specimen was *I. elongaria* (Rambur). It was also a good match with some of the specimens of *I. elongaria* illustrated in Hausmann (2004, *The Geometrid Moths of Europe* vol. 2). Subsequently MC dissected the specimen and was able to confirm that it is a female *I. elongaria*. This appears to be the first British record.

The provenance of the specimen is a mystery. The species is not known to be migratory. Two possible means of artificial transportation to the collection site can be considered. WC and his wife had returned from the Greek Peloponnese Islands on 16 June 2012. Perhaps they had somehow accidentally brought the moth or even a pupa back with them and it had strayed outside their home. How this could have occurred is open to conjecture; the moth was in relatively very good condition. WC was unable

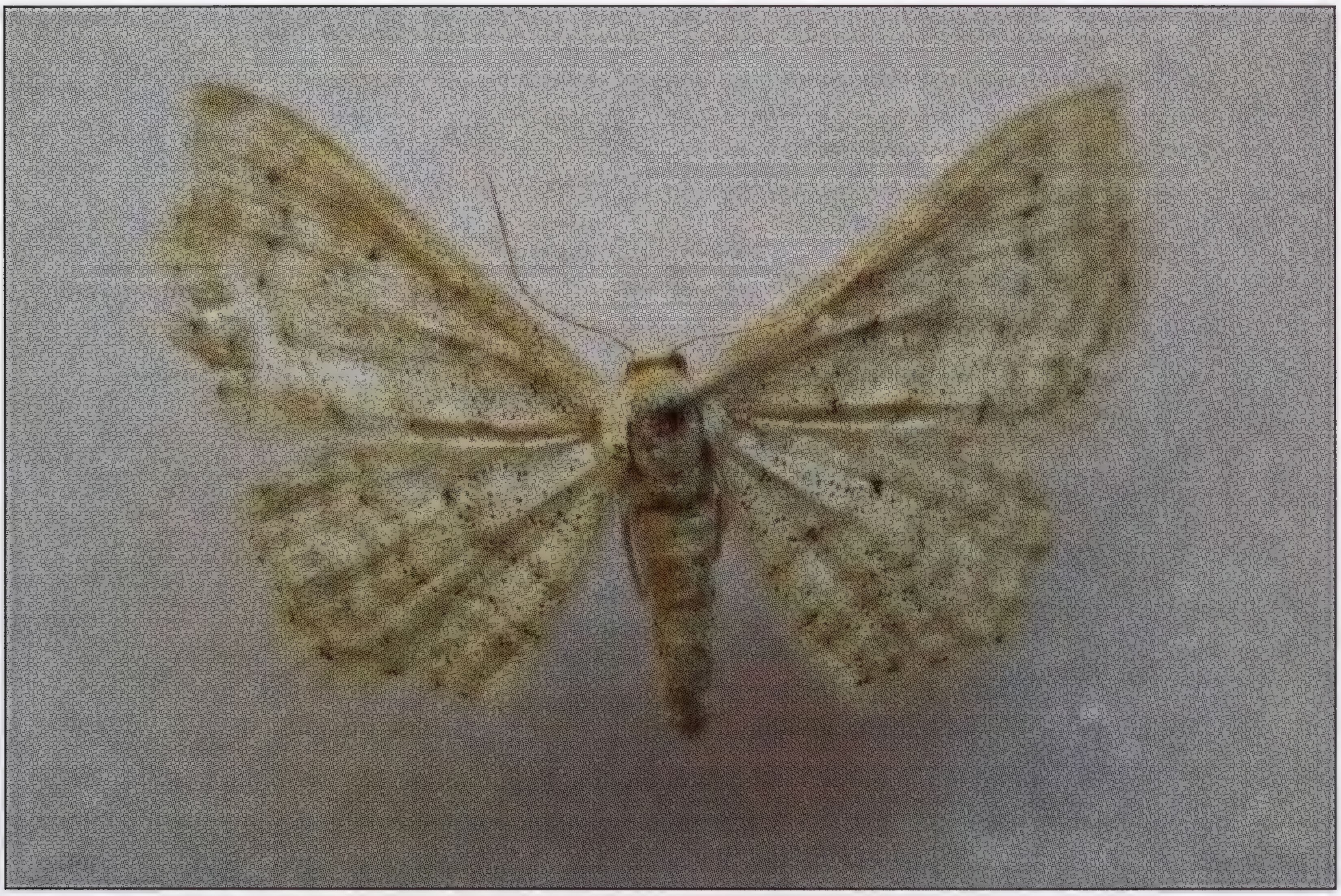

Plate 1. *Idaea elongaria* (Rambur) adult. Covinham, Wiltshire, 19,vi,2012.

to think of any way they could have transported it inadvertently and without damage. Nevertheless the Peloponnese Islands are well within the distribution range of *I. elongaria* which includes the north coast of the Mediterranean Sea and the Iberian Peninsula. The short interval between their return home and the capture of the moth also points to this as a plausible explanation.

The other possible origin is a Sainsbury's superstore located around 200 metres from WC's home. The moth could have travelled either as a stowaway in a long-distance lorry or in imported produce.

Unfortunately both WC and I failed to photograph the live moth. MC took the photograph (Plate 1) of the set specimen before dissection. He also took photographs of the female genitalia, from which WC was able to produce the image figured here (Plate 2).

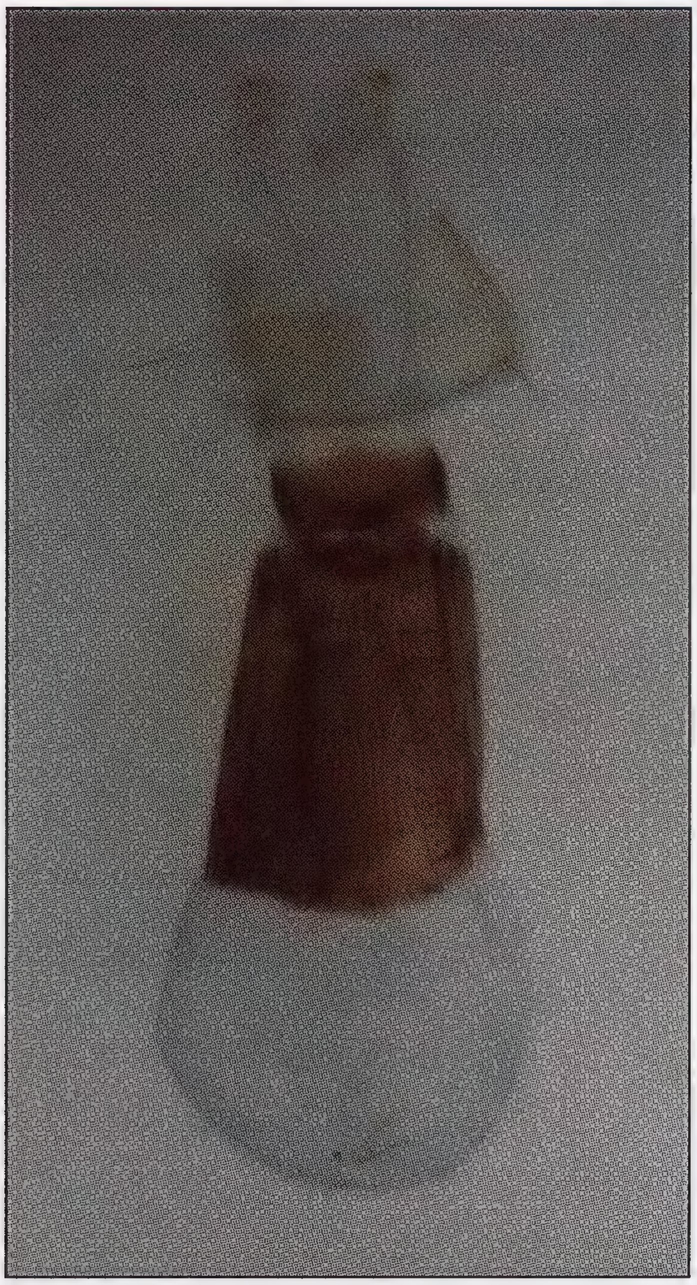

Plate 2. *Idaea elongaria* female, genitalia, the Wiltshire specimen.

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(E-mail: d.brotheridge@btinternet.com)

Moths new to the Isle of Wight in 2012

There were two new macro-moths and two new micro-moths added to the island's fauna during 2012. Their details are given below.

I made the first definite record of *Eupithecia abietaria* (Goeze), Cloaked Pug, at Totland on 7 July 2012. A second example was recorded at Freshwater the following day.

James Halsey captured an example of *Dryobotodes tenebrosa* (Esper), the Sombre Brocade, at Bonchurch on 14 October 2012 – the first island record.

Ian Fletcher recorded the first example of the tortrix *Pammene germmana* (Hb.) at Cranmore on 30 May 2012; the identification was confirmed by Mike Wall. Meanwhile, at Newtown Tim Norriss noted eleven *Adela cuprella* (D.& S.) at sallow during the daytime on 6 April 2012. Previous Isle of Wight reports of this species are now regarded as erroneous and so this report from Newtown is the first confirmed occurrence here.

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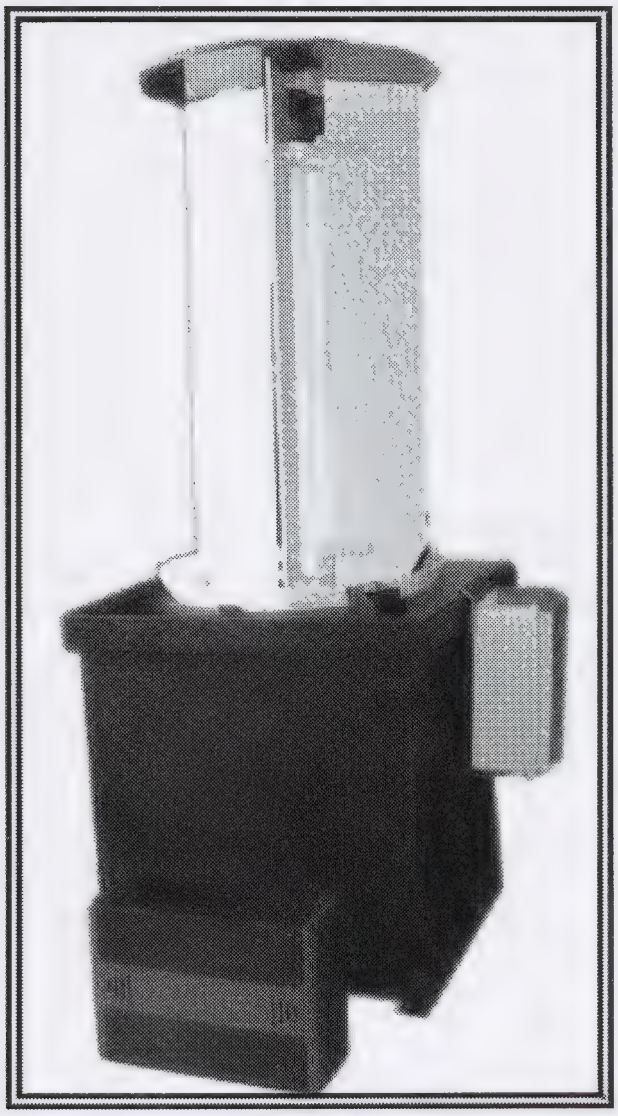

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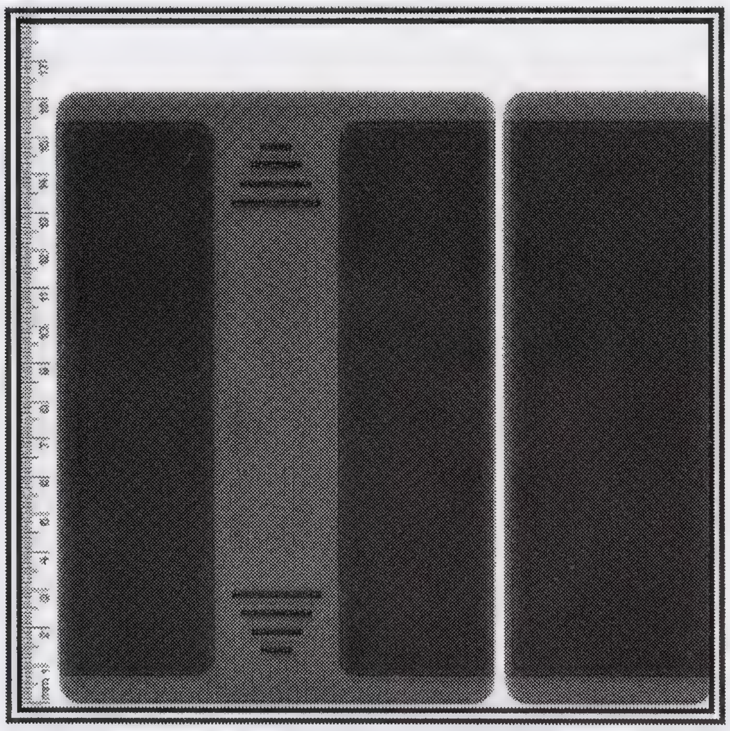

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Cravitz Printing Company Limited, 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277 224610

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and Journal of Variation

olume 125 • Part 5 September/October 2013

Edited by C. W. Plant

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Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

Annual subscription for individual subscribers for 2013 is £25.
For institutional and overseas rates please visit the website at www.entrecord.com

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The Entomologist's record is now printed in full colour, enabling us to accept a wider range of illustrative and interpretative material. This development has been made possible by a generous bequest by the late Andy Callow.

Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

Rearing Flame Brocade *Trigonophora flammea* (Esp.) (Lep.: Noctuidae)

In 1964 I moved to Sussex, eager to see the exciting southern moths that were absent from my previous home county of Lancashire. My new patch was the chalk downland around Brighton and Lewes. It encompassed several former sites for Flame Brocade *Trigonophora flammea*, including the famous Ranscombe Wood. Each autumn I worked the overripe blackberries and the ivy blossom in various brakes and shelterbelts, hoping to rediscover this splendid moth, but predictably without success. By then it had probably been extinct for sixty years or so (Pratt, C. R., 2011. *A Complete History of the Butterflies and Moths of Sussex*, vol. 3. Privately published).

In the early years of the present century, there were signs that Flame Brocade was beginning to recolonise Sussex. By 2011 there was strong evidence that it was well-established on the coast at Beachy Head. Alas, its reappearance had come too late for me, now based 500 miles away in Banffshire. However, thanks to the generosity of Colin Hart, in October 2012 I received five eggs laid by females caught at Beachy Head, kindly passed on by Reg Fry. If I couldn't get to see Flame Brocade in the wild, rearing it would be the next best thing.

According to Porter (1997. *The Colour Identification Guide to Caterpillars of the British Isles*. Viking), rearing Flame Brocade can be a very hit and miss affair, with some batches dying from unknown causes. With only five eggs to start with, there was little margin for error. Meticulous care would be needed, not to mention luck.

The eggs had been laid on or about 19 October 2012, singly or in pairs on a buttercup leaf, which was now brown and withered. It was placed in a small container made of clear plastic, with a fresh leaf added to maintain some humidity without encouraging mould. By 10 November the eggs had turned violet grey, as if about to hatch, but they did not do so. This was worrying, particularly when Reg Fry e-mailed me on 18 November to say that only one of his eggs had hatched successfully, the other larvae dying in the act, apparently from dehydration. Mine seemed in danger of a similar fate. Yet wetting the long-dead buttercup leaf would risk the rapid growth of mould, which could also prove fatal. Instead, working under a low-powered microscope, I deposited a tiny bead of water on the top of each egg, using the head of an entomological pin. Fortunately this did the trick: three eggs hatched within a couple of hours and remaining two had hatched by the following day. All the neonates seemed strong and viable. Hereafter they were kept indoors, but in a fairly cool room.

In their first instar, the larvae were offered a mixture of Creeping Buttercup *Ranunculus repens*, chickweed *Stellaria* spp. and fine grasses, including *Poa annua* from the garden. Grass was much preferred, though chickweed was also nibbled; the buttercup was ignored. Larvae attained a length of 5-6 mm in their first instar.

By 1 December, two had moulted to second instar, and the rest soon followed. They were now grass-green with fine white dorsal and subdorsal lines and a narrow white spiracular line. In this instar, chickweed was preferred to grass, and buttercup was nibbled occasionally. Larvae attained a length of 12-13 mm in their second instar.

By 16 December, two were newly into their third instar and all five had reached this stage by 20 December. Colour and pattern were as in the second instar. Grasses were no longer being eaten and chickweed was now the preferred food. By the end of their third instar the larvae had attained a length of 20mm.

Fourth instar was reached by 25 December (Plate 1). Larvae were now a deeper green, with yellowish intersegmental divisions, with fine white dorsal, subdorsal and spiracular lines as before. The trapezoidal dots were white. The head was a slightly paler green, unmarked. Maximum length of the fourth instar was 28 mm and larvae were quite plump. More buttercup was now being eaten as well as the chickweed. One larva was sent to Reg Fry to replenish his loss.

By 7 January 2013, the four remaining larvae had moulted to their fifth and final instar (Plates 2 and 3). Immediately after casting their skin, they were a mossy green with only faint traces of markings. Over the next two or three days they darkened to a deep green, with the markings becoming more distinct, then gradually changed to an earth-brown. The fine pale subdorsal lines were edged on either side with dark brown, enclosing a dorsal pattern of darker diamonds linked by the pale, dark-edged dorsal line. The trapezoidal dots and the spiracles were white, the latter linked by a fine white line. The head was reddish-brown marbled with darker brown. Ventrally some larvae retained a greenish tinge, others being pale brown.

This major change in appearance was accompanied by a change in behaviour. In their previous green instars, the larvae had rested upon the foodplant by day and were very hard to spot. In their brown final instar they descended to the floor of the container, hiding beneath the foodplant or under the kitchen towel lining of the container by day and feeding only at night. Presumably in the wild they descend to ground level and hide in the leaf litter, where they would be well-camouflaged. Buttercup was now the sole foodplant and was eaten voraciously, chickweed being ignored. Fresh, vigorous young leaves were much preferred. Because the literature such as Porter (*loc. cit.*) recommends a more varied diet in the final instar, attempts were made to provide this despite the limited choice available in midwinter. Heathers, marjoram, thyme, foxglove, flower buds of gorse and sprigs of broom were all offered, but no feeding was observed on any of these. Privet *Ligustrum vulgare*, accepted by Reg Fry's larva, was unavailable in Banffshire.

This dependence on buttercup caused problems when the weather turned increasingly cold in the second week of January, with prolonged hard frosts down to -6°C and patchy snow cover. At first, buttercup growing against the walls of outbuildings, or protected by the snow, was still in usable condition, but as the cold spell continued even these plants became blackened and shrivelled. Eventually I was forced to scrabble in deep roadside ditches, seeking individual buttercup leaves not yet seared by the frost. Just when the quest for foodplant was becoming impossible, the last larva went down.

In their final instar the larvae grew rapidly in size, attaining a maximum length of 48-50 mm with a considerable girth. They were not particularly attractive at this stage. Having reached full growth they did not enter the soil immediately but rested quietly for two days beneath the foodplant, gradually shrinking from 48 mm long to about

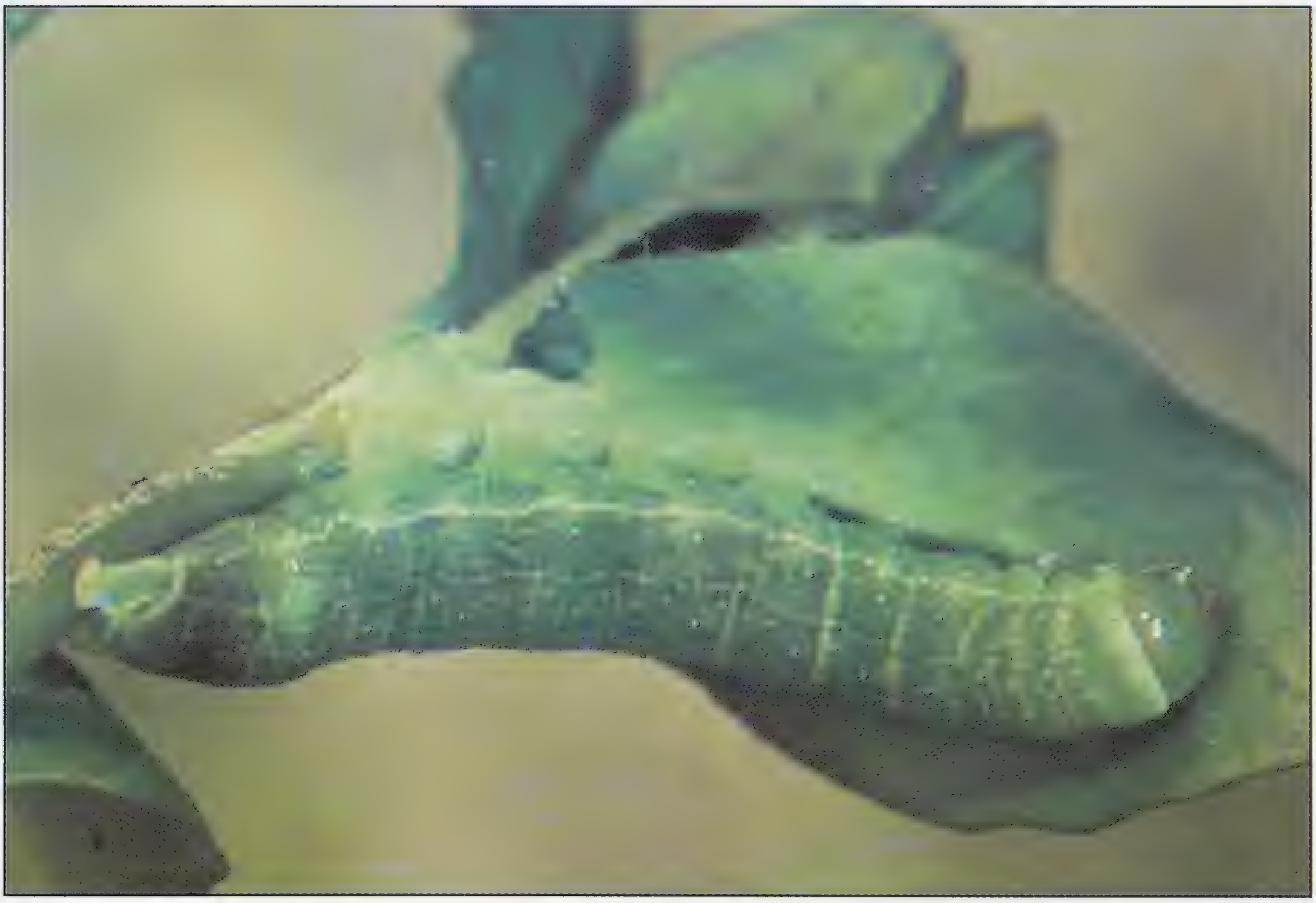

Plate 1. *Trigonophora flammea* (Esper) penultimate instar larva, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

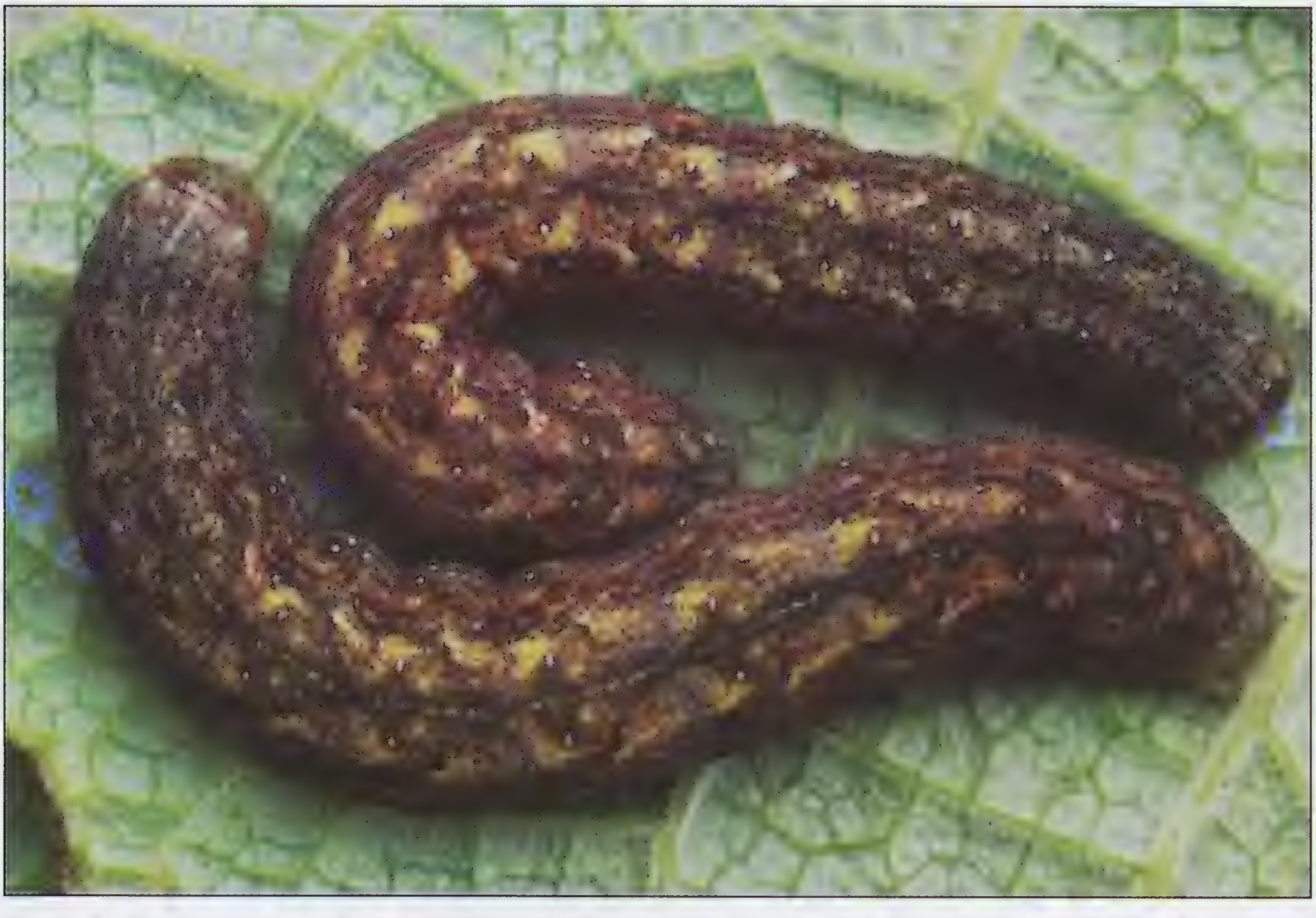

Plate 2. *Trigonophora flammea* (Esper) final instar larvae, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

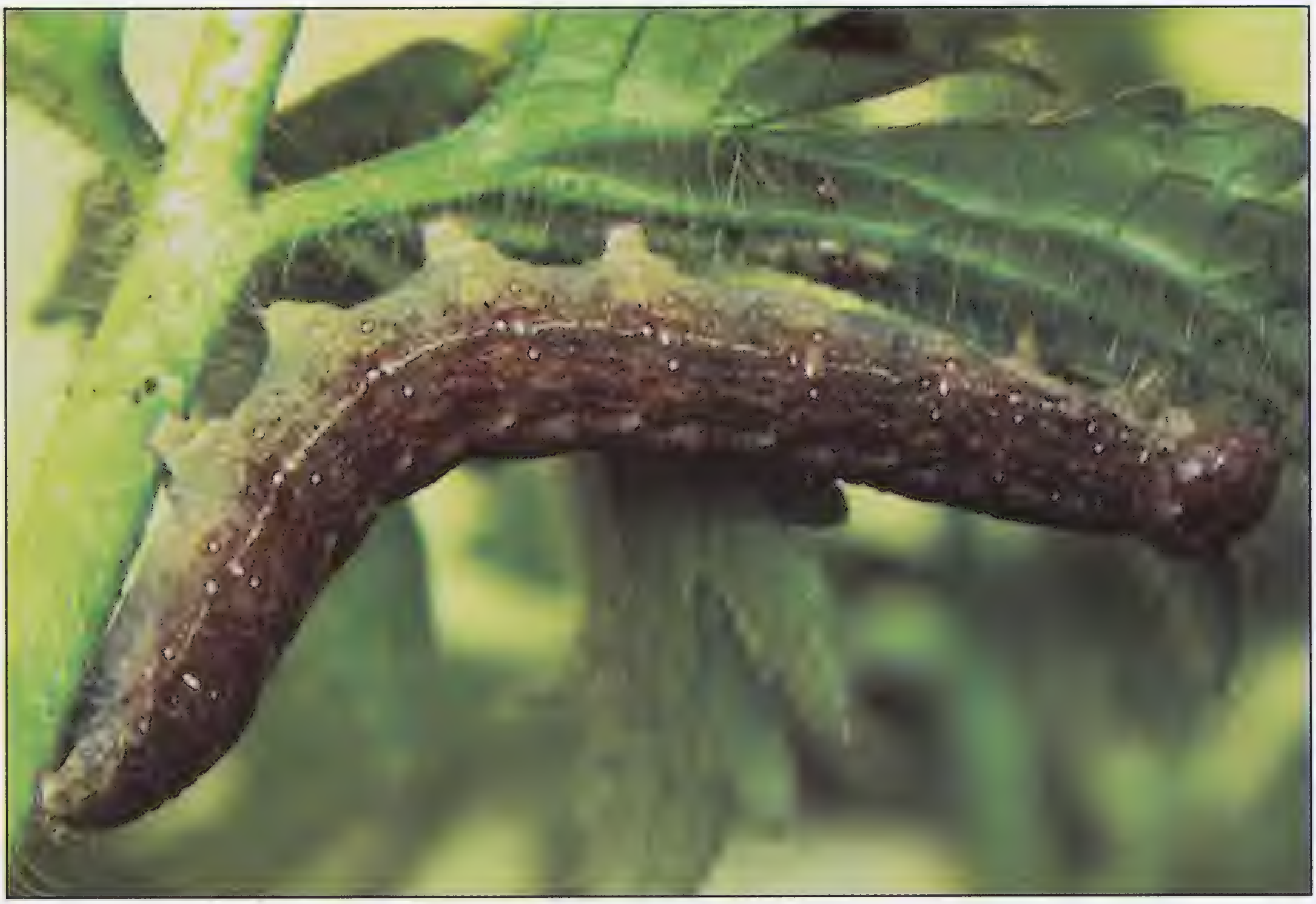

Plate 3. *Trigonophora flammea* (Esper) full-grown larva, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

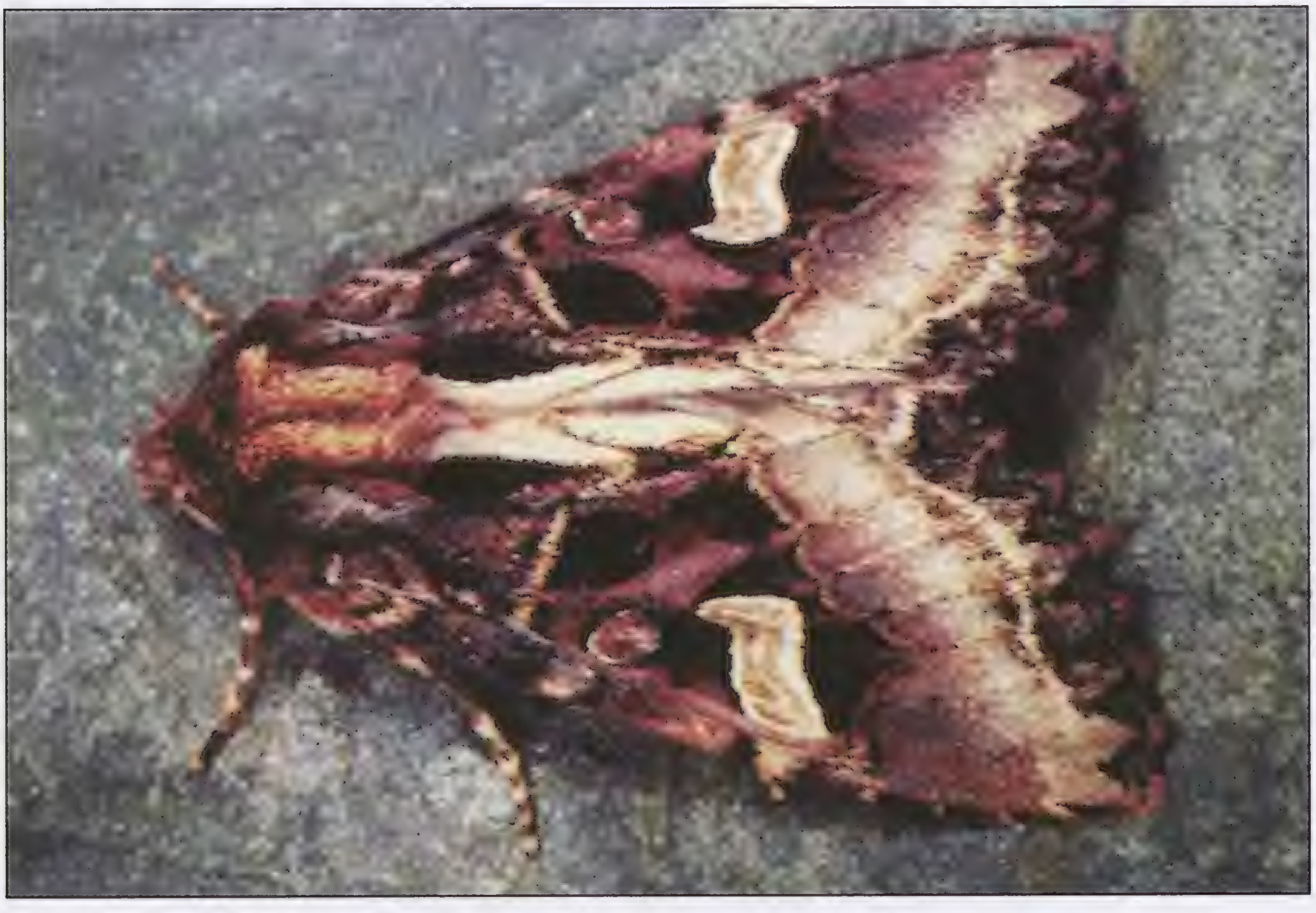

Plate 4. *Trigonophora flammea* (Esper), adult female, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

35 m. They then went down, without the usual perambulation beforehand, between 18-21 January.

The larvae constructed moderately strong cocoons of soil and silk 40-50 mm below the surface. Unlike in many autumn moths, there seems to be no prepupal diapause inside the cocoon, as the larva sent to Reg Fry had pupated when examined 10 days after going down. My cocoons were left *in situ* beneath the soil and kept in an unheated room. Surprisingly, the first adult emerged on 9 May 2013 and others followed on 19 May (Reg Fry), 20 May, 23 May and 29 May. Emergence took place in the evening or overnight. Needless to say, the freshly emerged moths were exquisite.

It is surprising that the adults emerged four to five months earlier than the normal flight time in the wild. I purposely made no attempt to force the larvae, in the belief that a wider range of foodplants would be needed for the final instar in spring. Although necessarily reared indoors because the winter was exceptionally severe, the larvae were kept fairly cool. Yet still they raced ahead, completing their growth in only two months, then spending about four months in the pupal stage. Calculating backwards from the normal emergence period suggests that in the wild the larvae would reach full growth in April or May. This agrees with the timing given in Newman (1869. *The Illustrated Natural History of British Moths*. London) and in Tutt (1905. *Practical Hints for the Field Lepidopterist* III. Stock, London).

However, there is debate about whether wild larvae were ever discovered in Sussex during the 50 years or more that the moth was established there from 1855 onwards. Apparently there is no unequivocal account of larvae ever being found (Pratt, *loc. cit.*). Because of the interest in this species, and the considerable financial value of good specimens at that time, wild larvae would surely have been sought by professional collectors and dealers in the nineteenth century. Given the fieldwork skills and diligence of the Victorian collectors, together with the frequency of the moth in the early years of residency at least, it is hard to believe that none of these attempts was successful. On the other hand, those hoping to profit would have every incentive not to publicise such finds, or even to spread disinformation, with the aim of cornering the market.

If Flame Brocade maintains its latest Sussex colonies, searching for larva in early spring might help to resolve this issue. The green early instars, resting on the foodplant by day, should be amenable to sweeping from low herbage. The brown final instar should be sought by torchlight after dark in April, perhaps climbing to feed on shrubs such as privet. Then we might have a better idea of whether the old observers were holding back information, either for pecuniary advantage or out of a genuine concern for the moth.

I am grateful to Colin Hart for providing the eggs and exchanging rearing information, also to Reg Fry for passing on the eggs to me. Further images from this rearing, including egg and pupa, are available on *www.ukleps.org*.

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Mating attempt between Dusky Sallow *Eremobia ochroleuca* (D.&S.) (Noctuidae) and a skipper butterfly (Hesperiidae)

At 16.30 hours on 3 August 2013 I was at Warham Camp, a small area of chalk pasture in North Norfolk, watching the many hundreds of Chalk-hill Blue butterflies *Polyommatus coridon* (Poda) on the wing and feeding. I noticed a Dusky Sallow moth *Eremobia ochroleuca* on a scabious flower; on closer inspection I saw that this moth was joined to a butterfly (Plate 1). They moved around on the flower head for over a minute enabling me to take a number of photographs. Examination of the images shows that the butterfly was either a Small Skipper *Thymelicus sylvestris* (Poda) or and Essex Skipper *T. lineola* (Ochs.).

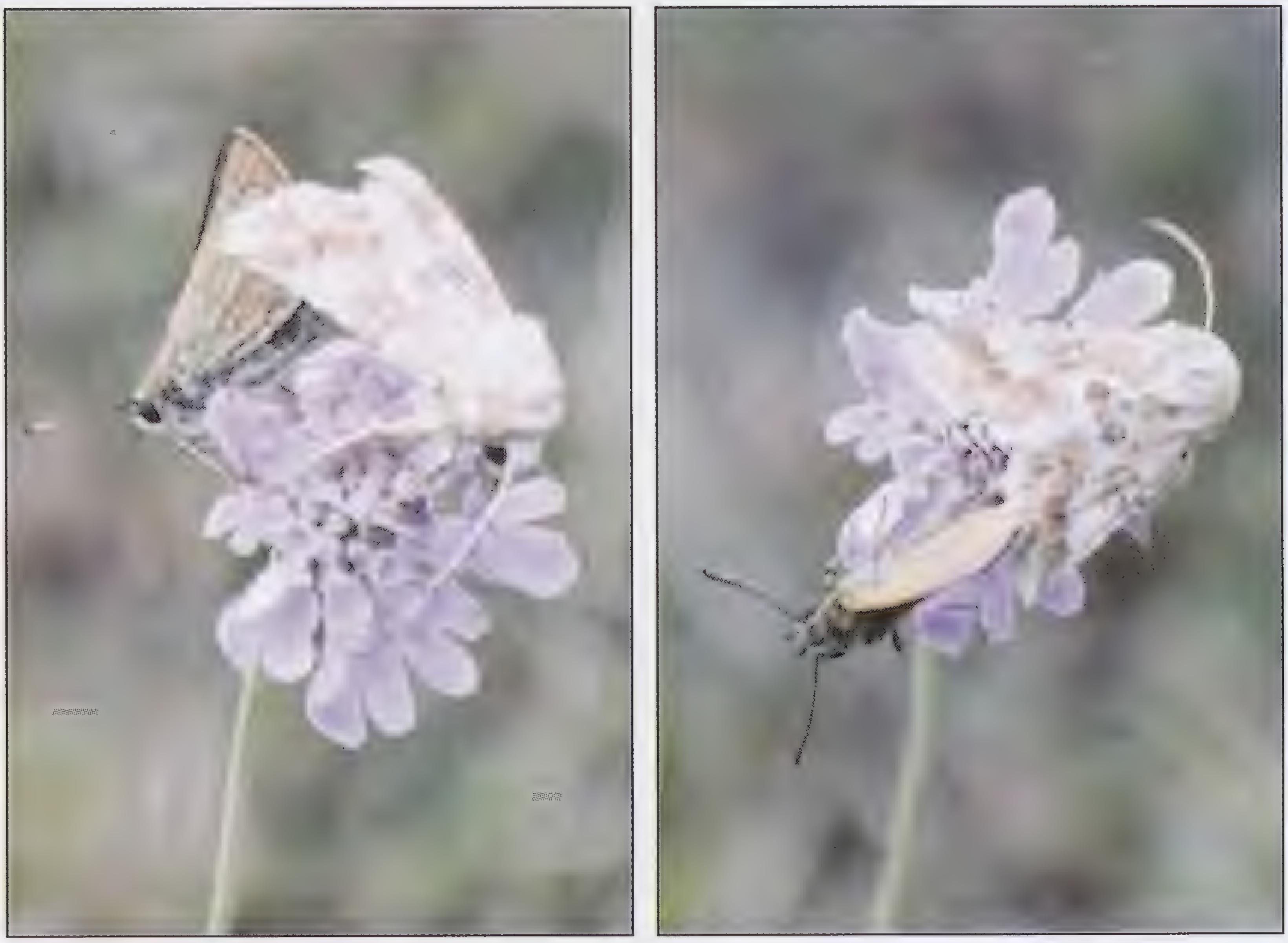

Plate 1. *Thymelicus sp.* (Hesperiidae) and *Eremobia ochroleuca* (Noctuidae) *in copula*, Norfolk 2013.

Although pairings between moths of different species are not entirely unknown, brief research on the Internet suggests that inter-generic couplings between moths and butterflies are of very rare occurrence and may not, previously, have been photographed.

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Prays fraxinella (Bjerkander) (Lep.: Praydidae) is not monophagous on Ash

On 16 June 2013, I was searching for larvae on a large Wild Privet bush *Ligustrum vulgare* at Rougemont Carr near Pool in West Yorkshire; I came across two pupae in typical loose cocoons on adjacent branches of the privet. In both cases there was evidence of the leaves having been eaten. A normal form *Prays fraxinella* emerged on 21 June and one of the melanistic form *rustica* on the next day. This was interesting in its own right as it is reasonable to assume they were laid by the same female.

Plate 1. Pupa of *Prays fraxinella* (Bjerkander) on *Ligustrum vulgare*, Rougemont Carr, West Yorkshire, 16 June 2013, P. Millard.

Enquiries made of literature and the County Moth Recorder, C. H. Fletcher, indicate that *P. fraxinella* is thought to be monophagous to Ash *Fraxinus excelsior*. This is attracting much publicity recently because of the threat to species entirely dependent on Ash, though other species largely dependent on Ash will often also take privet as a secondary foodplant. Alan Stubbs (2013. Ash and its host species. *British Wildlife* **24**(4): 251-253), lists four species of moth presumed to be monophagous on Ash: *Zelleria hepariella*, *Euzophera pinguis*, *Pammene suspectana* and *Prays fraxinella*. He also lists as oligophagous, with Privet or Lilac alternatives, *Caloptilia syringella*, *C. cucullipennella* and *Pseudargyrotoza conwagana*. It would appear that *Prays fraxinella* is also oligophagous.

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Zygaena lonicerae (Schev.) ssp. *latomarginata* Tutt, Narrow-bordered Five-spot Burnet, f. *citrina* Speyer (Lep.: Zygaenidae) in Shropshire: A rare morph found in Church Stretton

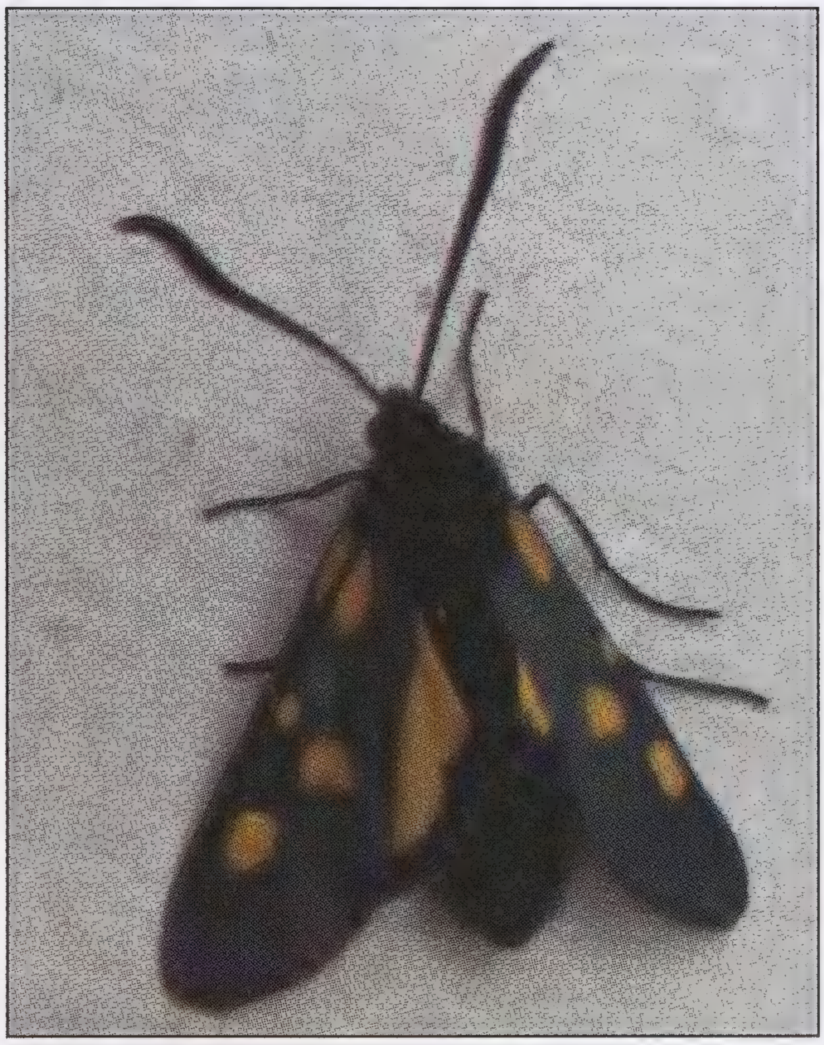

Plate 1. *Zygaena lonicerae* (Schev.) ssp. *latomarginata* Tutt, Narrow-bordered Five-spot Burnet, f. *citrina* Speyer, Church Stretton, Shropshire, 11 July 2013. Photograph © G. Wenman

On 8 June 2013, I visited a wetland field which is only a few hundred metres from my home in Church Stretton (Shropshire, VC 40), looking for butterflies and day flying moths. In one small area I found several larvae of "burnet" moths, apparently feeding on Meadowsweet *Filipendula ulmaria.* In total in the field I did not see more than 30 larvae and did not notice any pupal cases attached to grass stems. I took photographs of two larvae as they were both different in appearance and identified them both as *Zygaena filipendulae* (L.) Six-spot Burnet. A few days later these two larvae pupated and on 4 July a *Z. filipendulae* emerged. The second one has failed to emerge.

It is interesting to note that although the name of the moth and the plant it was found on are shared, *Filipendula* is not listed as a food-plant for the larvae of this moth, which are traditionally associated with *Lotus*.

On 11 July 2013, I decided to revisit the site. Considering that I had not seen many larvae or pupal cases on the previous visit, I was astonished to find that there were thousands of burnet moths in the field. Every bramble flower head was covered in moths. These were all *Zygaena lonicerae latomarginata* Narrow-bordered Five-spot Burnet. There were quite a number of butterflies, crambids and tortrix moths flying and several were netted for identification. I was however surprised to see a yellow form of a Burnet flying towards me; this was duly potted and photographed (Plate 1). A quick check in Waring & Townsend (2003. *Field Guide to the Moths of Great Britain and Ireland.* British Wildlife Publishing), revealed that my specimen was the rare *f. citrina* (Plate 3), although the authors fail to mention this form in the descriptive text. The identification has been confirmed from the photograph by Dr W. G. Tremewan.

There are no records of this morph on the National Moth Recording database (Les Hill, personal communication), although there is, it seems, no method for recording such forms (except perhaps in the free-text "Comments" column in MapMate).

In the comprehensive discussion of the Zygaenidae by Tremewan (1985. in *The Moths and Butterflies of Great Britain and Ireland*, Vol 2, Harley Books), there is only a mention of a "yellow form" and it is said that this "has occurred regularly on the Cotswold Hills, Gloucestershire". Comprehensive papers concerning aberrations of the British species (with coloured illustrations) have been published by Tremewan (1961. The aberrations of the British species of the genus *Zygaena* Fabricius (Lepidoptera: Zygaenidae). *Coridon* (A) **1**: 1-10, Plates C1-C3) and Reiss & Tremewan (1967. A systematic catalogue of the genus *Zygaena* Fabricius (Lepidoptera: Zygaenidae). *Series ent.* **2**: xvi, 329pp.).

My thanks go to Martin Honey of the Natural History Museum who confirms that the Museum possesses a long series from the "famous" Cotswold's site, collected by Richardson and two specimens from Painswick in Gloucestershire (A. M. Morley) and a specimen from Filey in Yorkshire dated 1893. I am also grateful to W. G. Tremewan for confirming the identification from my photograph.

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Epiphyas postvittana (Walker) (Lep.: Tortricidae) reaches West Ross

During the Scottish Entomologists' Gathering, a mercury vapour light trap was run on the night of 29 June 2013 in a garden at Camusnagaul, O. S. grid reference NH 064893, on the southern shore of Little Loch Broom in West Ross, VC 105. The weather was mild, although a blustery wind from the north-west was strong enough to threaten the safety of the trap. Disappointingly few moths were caught, but amongst them was a fresh male *Epiphyas postvittana*. Later that morning its identity was agreed by John Langmaid, Mark Young and Stephen Palmer, who were also attending the gathering. The county moth recorder, Brian Neath, has since confirmed it as the first for West Ross.

This appears to be the most northerly record yet of *E. postvittana*, an adventive species that has been steadily extending its range in Britain since it was discovered in Cornwall in 1936. The first Scottish record came only in 2002, when one was found in Edinburgh by Keith Bland. Until now, the most northerly sighting was at Kingussie in East Inverness-shire on 4 June 2006, so this latest record is over 100 kms distant and almost 90km further north. Transportation of the early stages via plant nurseries is of course a possibility. The garden in question contains a wide variety of native and exotic shrubs, many of which are known foodplants of *E. postvittana*.

Ironically, the trap also held one *Blastobasis lacticolella* Rebel. It seemed incongruous to catch two adventive colonists, originating from Australia and Madeira respectively, in such a wild and remote Scottish setting.

We thank Dundonnell Estate for hosting the Scottish Entomologists' Gathering and Mrs Ross for permission to run the trap in her garden. Mark Young kindly researched the earlier records.

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MYRMELEON FORMICARIUS (L., 1767) (NEUR.: MYRMELEONTIDAE): AN ANT-LION NEW TO BRITAIN

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Abstract

The ant-lion *Myrmeleon formicarius* (Linnaeus, 1767) is recorded new to Britain from the Isle of Wight in August 2013. The possible origin of the insect is discussed.

Keywords: Neuroptera, Myrmeleontidae, *Myrmeleon formicarius*.

Introduction

In a suburban area of Freshwater, at the western end of the Isle of Wight about 1.25 km inland from the south coast, DC runs a 125 watt MV Robinson-pattern moth trap regularly in his garden. During the night of Friday 23 August 2013, there had been a light north-west breeze throughout and amongst the 108 species recorded in the trap the next morning were several potential immigrants, such as 13 *Plutella xylostella (L.),* 10 *Udea ferrugalis* (Hb.), a single *Agrotis ipsilon* (Hufn.) (Dark Sword-grass) and 42 *Autographa gamma* (L.) (Silver Y). *Evergestis limbata* (L.) and *Udea fulvalis* (Hb.) were also recorded, but these are resident in the area. In the morning, there were many moths outside the trap including several Jersey Tiger *Euplagia quadripunctaria* (Poda) which is now abundant in many places along the south coast of the island. Upon the arrival of TN and LF to stay for the weekend, we started to empty the trap of its contents. Near the bottom of the trap TN noticed what he thought was an ant-lion settled on one of the trays and so it was potted.

A hasty picture taken on a mobile phone was sent straight away to Paul Brock who in turn e-mailed it to CWP; he responded with the information that this was a species of *Myrmeleon* (L.) and that on the basis of the wing venation and patterning could only be either *M. formicarius* (L.) or *M. bore* (Tjeder). Subsequent examination of additional photographs showing the colour pattern on the pronotum, together with a knowledge of the wing length, generated the response that (in absence of the actual specimen) in his opinion this was certainly *M. formicarius*.

In view of the extreme surprise that this species could migrate to Britain, a selection of images were e-mailed to colleagues in Europe who are familiar with this species

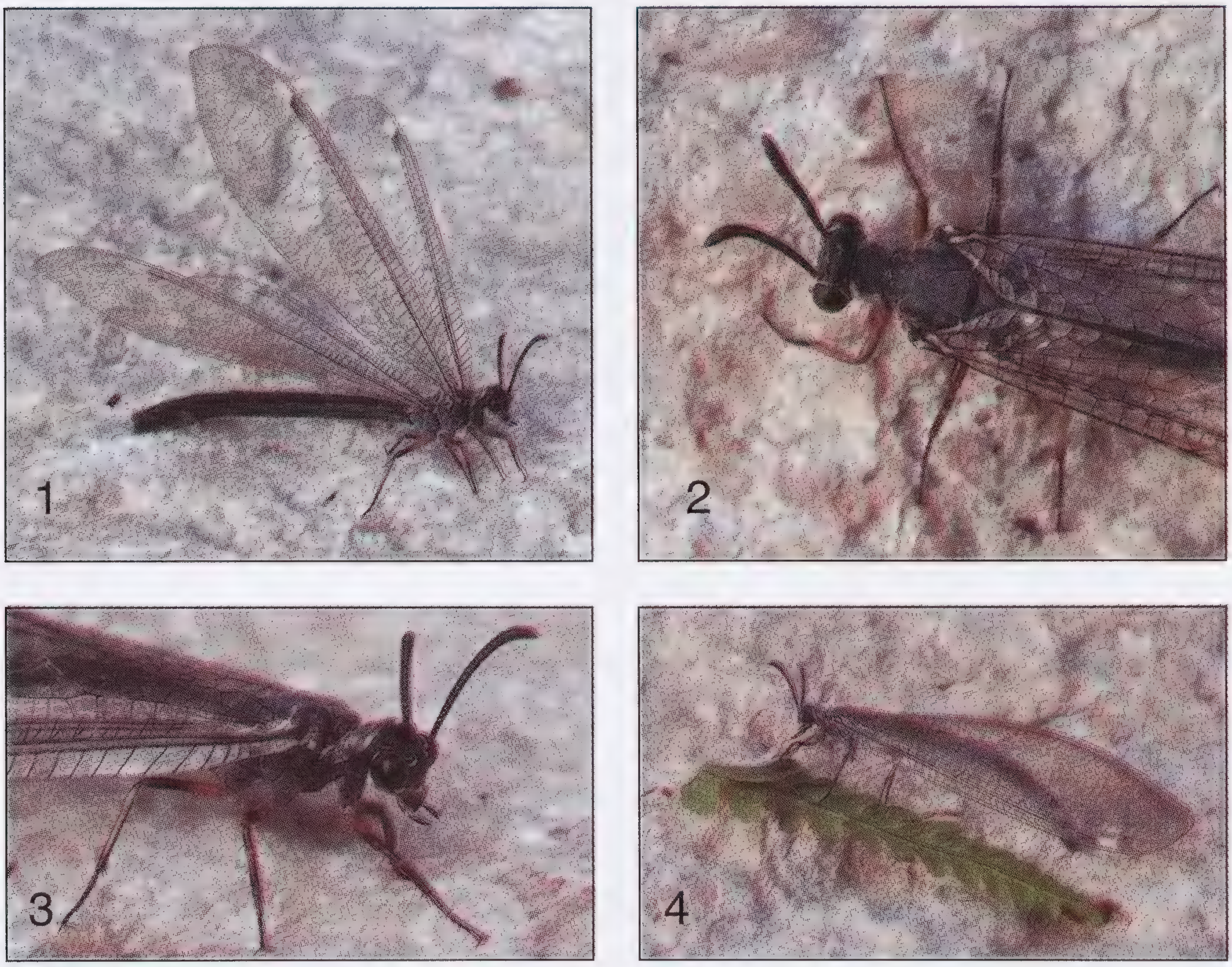

Plate 1. *Myrmeleon formicarius* (L.), Freshwater, Isle of Wight, 23.viii.2013, leg. Dave Cooke, in coll. James Halsey. 1. Showing the venation on both fore and hind wings and the slightly falcate wing tips; 2. Entirely dark dorsal surface of pronotum helps to distinguish this species from *M. bore*; 3. Oblique lateral view of head and thorax showing colouration of legs and other features; 4. In a natural repose, with a fern frond for scale (wing length = 34 mm). All photographs Dave Cooke.

on a regular basis. The responses received from Dr Ferenc Szentkirály (Hungary), Dr Agostino Letardi (Italy), Dr Patrice Leraut (France), Dr Dušan Devetek (Slovenia) and Dr Levente Ábrahám (Hungary) supported the identification as *M. formicarius*, although emphasised the need to distinguish carefully from *M. bore.*

Recognition

According to Aspöck et al (1980) the dorsal pattern of the pronotum is characteristic. These authors also discriminate between the two within their key on the basis of fore wing length, with *M. formicarius* having a wing of 35 – 40 mm and *M. bore* smaller at 25-33 mm. The cynical will be unsurprised that the Isle of Wight specimen measures 34 mm. However, Feri Szentkirály also commented that "*The wing length of antlions may be variable, as I found in my larger adult material collected by light trapping, consequently it is not a good key for identification*".

We are extremely grateful to Dr Levente Ábrahám for supplying photographs of set specimens of males of both *M. formicarius* and *M. bore* together with the following notes:

> *M. formicarius* is larger species than *M. bore*, the length of forewing usually is over 30 mm while *M. bore* has less then 30 mm. The shape of forewing in the [Isle of Wight] picture is more similar to *M. bore* than that of *M. formicarius*. Forewing is narrower than that of *M. formicarius*. … The male of *M. bore* has a *pilula axillaris* (Eltringham organ) in the base of hindwing; *M. formicarius* has not got such an organ. The ectoproct of *M. bore* has a bent, tooth-like processus ventrally while that of *M. formicarius* is only an oval plate. In both sexes the dorsal segments of the abdomen of *M. bore* have a narrow yellowish edge caudally while those of *M. formicarius* do not. *M. formicarius* usually flies from end of May to early July, *M. bore* flies from the middle part of summer, mainly in the second part of July and in August.

Overall, we are in no doubt that this captured specimen refers to *M. formicarius*.

An erroneous earlier record

An earlier published report of *Myrmeleon formicarius* in Britain has been shown to be a misidentification of *Euroleon nostras* (Geoff. in Fourc.), which is resident on the East Suffolk coast (Plant, 1998a; 1998b, 1999, from which the following three paragraphs are quoted).

> "The earliest reference to British ant-lions (Neuroptera: Myrmeleontidae) in the literature appears to be that of Barbut (1781), who recognised "*Myrmeleon formicarum*" as a British species but gave no details. Stephens (1829), also included "*Myrmeleon formicarum*" as British, though he had never himself seen a British specimen and had presumably copied from Barbut's earlier work. Later (Stephens, 1835) he reconsidered the matter and concluded that the species was erroneously introduced as British by Barbut. Hagen (1858), stated that it was "… almost certain that at least two species of *Myrmeleon* will be found in Britain, probably more", but provided no evidence to support that statement. McLachlan (1868) considered that "… we have no native member of the handsome Myrmeleonidae in Britain".
>
> The first confirmed British record of an ant-lion came on 5 September 1931 at Gorleston, when a single male was taken "… clinging to a paling about thirty inches from the ground, and in an apparently torpid condition" by C. G. Doughty (Doughty, 1931; Killington, 1932). The insect was identified as *Myrmeleon formicarius* by Claude Morley who, in an editorial footnote to Doughty (*op. cit.*) stated that the area had been practically unworked for over a hundred years and did not rule out the possibility of the species being native. Recent investigations by Howard Mendel at Ipswich Museum turned up Doughty's specimen in that institution (Morley Collection, number R.1953-22) and this proved to be *Euroleon nostras* rather than *Myrmeleon formicarius*.

> It is hard to comprehend the original misidentification of a species with darkly spotted wings with one whose wings are hyaline; the names *formicarum* and *formicarius* do not appear in the synonymy of *E. nostras* listed in Aspöck et al., (1980) though Mendel (1996), in considering this particular problem disagrees (but without references). Certainly, Barbut's (*op. cit.*) description of *Myrmeleon formicarum* as having wings "… diaphanous, adorned with a network of black fibres, charged with several blackish-brown spots, rather large, especially towards their outer edge" can surely only be a description of *Euroleon nostras*. The dark wing markings are clearly shown in his Plates 12 and 22. The matter is further discussed by Mendel (*op. cit.*) who concludes that early references are best treated as unreliable and in any case should probably be referred to *Euroleon nostras*."

Potential origins

This current capture of *Myrmeleon formicarius* represents an addition to the British fauna.

In continental Europe, *M. formicarius* is widely distributed from Spain in the west to Turkey (and beyond) in the east and from the southern tip of Italy to the southern half of the Scandinavian Peninsula in the north (Aspöck *et al*, 1980 and various subsequent individual papers). It is local, but not uncommon across this entire area. However, its presence in Britain is something of a surprise. It was presumably prevented from colonisation by the last "ice age" and it is not considered to be a migratory species. It is widely established in the "cold" areas of the southern half of Norway and Sweden and also in Finland extending, in terms of latitude, to a level just north of the Shetland Islands; range expansion as a consequence of climate warming seems, therefore, an unlikely explanation. We are mindful of Morley's comments (Morley, 1932) in relation to the discovery of the (misidentified) ant-lion in Suffolk. This find was of such interest that a lengthy report appeared in a local newspaper in which Morley described the possibility of the insect having been "merely blown across the intervening seventy miles of sea" from the Continent as " … an extremely improbable contingency". With the benefit of hindsight, and the knowledge that his specimen was in fact *E. nostras*, we can see that he was quite correct. That said, the likelihood of *M. formicarius* being an overlooked resident on the Isle of Wight is very small; this specimen was surely an immigrant or a wanderer, depending upon one's personal interpretation. Unless it is breeding somewhere else on the south coast?

Acknowledgements

We are grateful to Paul Brock for his invaluable help. We are also especially grateful to Dr Ferenc Szentkirály (Budapest, Hungary), Dr Agostino Letardi (Rome, Italy), Dr Patrice Leraut (Paris, France), Dr Dušan Devetek (Maribor, Slovenia) and Dr Levente Ábrahám (Kaposvár, Hungary) for their help in confirming the identification.

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WANTED – *DIACHRYSIA STENOCHRYSIS*

In spite of recent claims, the presence of *Diachrysia stenochrysis* (Warren) in Britain remains unconfirmed. As a part of a collaboration between myself and Dr Bong-Kyu Byun at Hannam University, South Korea, an opportunity now presents itself for sequencing the DNA (mitochondrial CO1 gene) of a small number of candidate specimens. The results can then be compared with sequences already obtained from Korean *stenochrysis* material.

If you have a *good* candidate for *stenochrysis* I would be very keen to borrow the specimen(s). I would remove the middle pair of legs to send to Korea for analysis; the specimen(s) will be photographed and returned after the results are back. Alternatively, you can send me just the legs (in a clean, uncontaminated container) accompanied by a very high resolution digital photo of the insect, which must be accompanied by full data. Candidate specimens are those in which the two brassy bars on the forewing are joined to make an H-shape (= f. *juncta* Tutt; = f. *tutti* Kostrowicki), but the brassy-green cross-bar of the H must be a *minimum* of 3 mm wide. There is a time limit on this window of opportunity, so please contact me at once if you are able to provide a specimen.

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Rhigognostis incarnatella (Steudel) (Lep.: Yponomeutidae): A new Northumberland record

On 16 July 2013, while emptying my 125 watt Robinson pattern MV trap, I noted a *Rhigognostis* species settled on an egg box, but I failed to secure it in time. The following morning I was pleased to see, it or another specimen, in my trap which I quickly potted up and my initial suspicions were confirmed as to the identity, a pristine *Rhigognostis incarnatella*. This constitutes the first record for Northumberland.

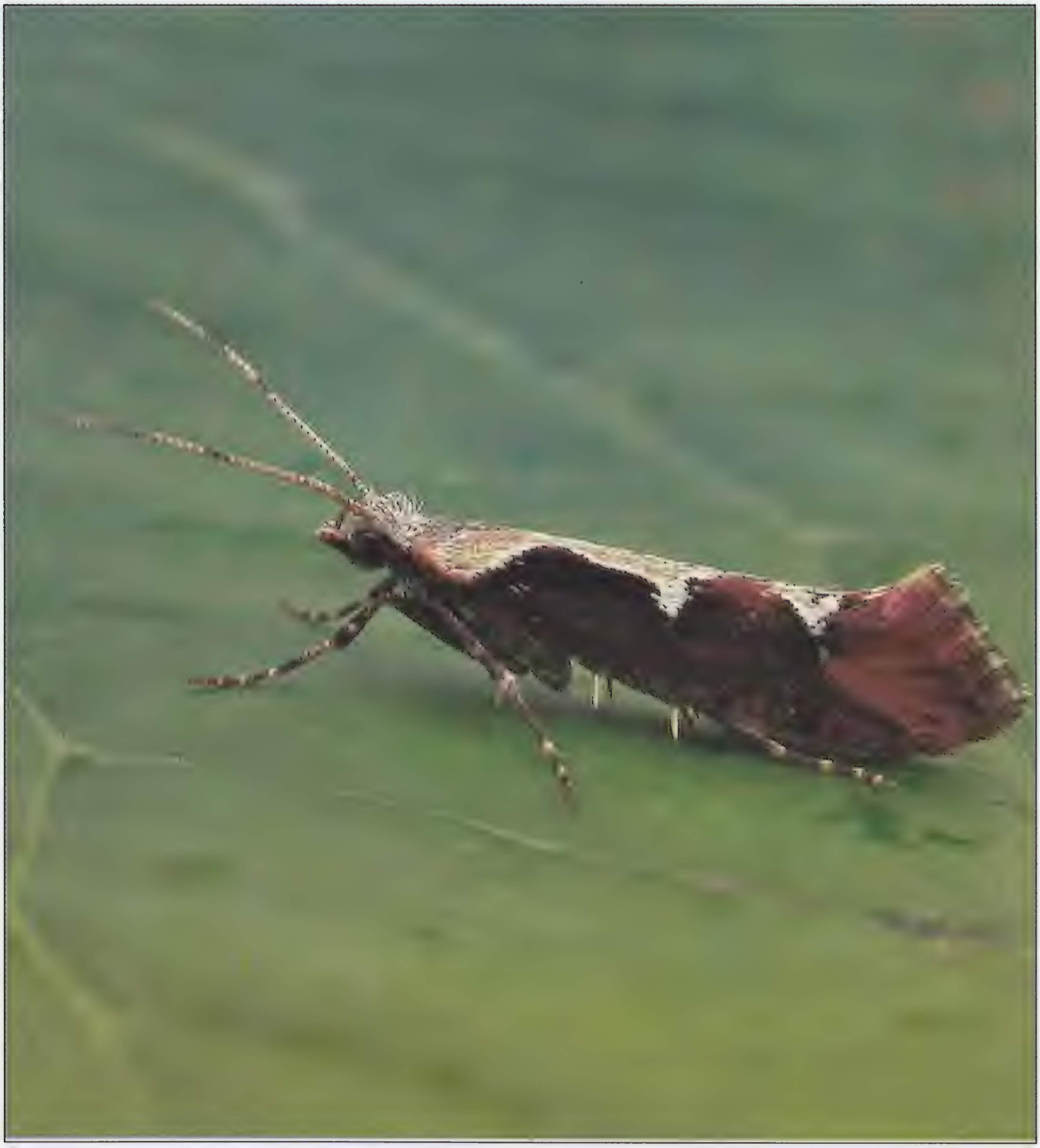

Plate 1. *Rhigognostis incarnatella* (Steudel), Tynemouth, 16 July 2013, T. J. Tams.

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An unusual food plant for larvae of the Cinnabar moth *Tyria jacobaeae* (L.) (Lep.: Arctiidae)

The Cinnabar moth *Tyria jacobaea* reaches its current limit in eastern Scotland at Sands of Forvie National Nature Reserve, Aberdeenshire. It recently spread north to Forvie, where its larvae have been found feeding on Ragwort *Senecio jacobaeae* since 2009. This is, of course, its usual and predominant larval foodplant and few enthusiasts will have seen the larvae feeding on anything else.

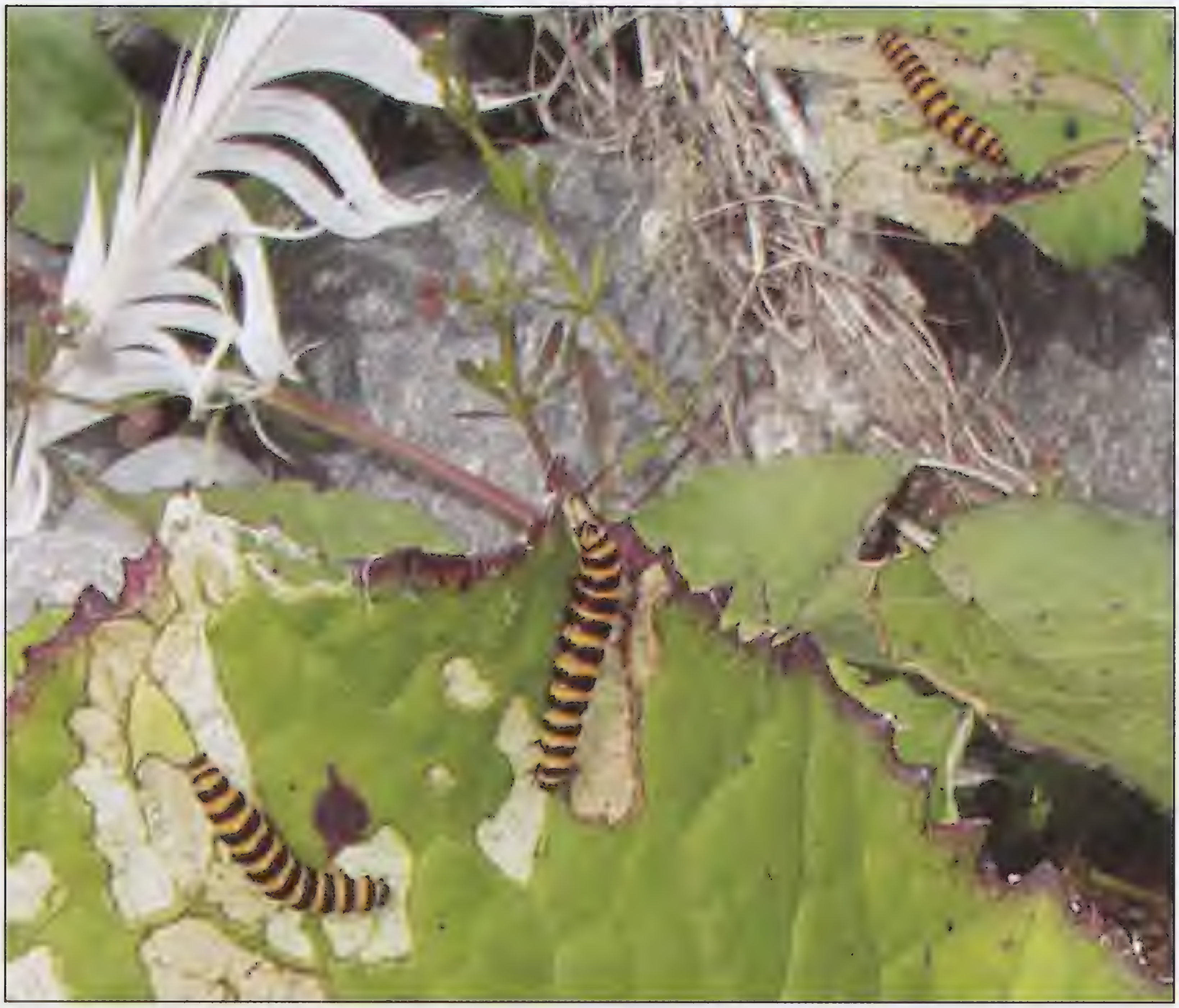

Plate 1. Larvae of *Tyria jacobaeae* feeding on *Tussilago farfara* Forvie, Aberdeenshire, 2013.

In 2013 Ragwort has been comparatively rare at Forvie and AD found larvae of the Cinnabar feeding on Coltsfoot *Tussilago farfara* (Plate 1). This foodplant is noted by Allan (1949. *Larval Foodplants*) and Porter (1997, *Colour Identification Guide to Caterpillars of the British Isles.* Viking), together with other Asteraceae, but its use at Forvie seems to deserve recording.

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CHILO PARTELLUS (SWINHOE, 1884) (LEP.: PYRALOIDEA, CRAMBIDAE) A STEM BORER ON CYPRUS

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Abstract

Chilo partellus is formally recorded on Cyprus, with records from 1997, 1999 and 2012.

Key words: Cyprus, Lepidoptera, Pyraloidea, Crambidae, *Chilo partellus*, distribution.

Introduction

During 2012, IB and KR spent two weeks moth-recording in Cyprus, between 14 and 27 April, based at the Vasilias Nikoklis Inn, Nikókleia, near Pafos. Trapping involved the use of a 6 watt Actinic Heath trap. The grounds of the hotel comprise a mix of olive and citrus grove, a small vegetable patch, and garden planting. The hotel sits in the Diárizos river valley at an altitude of about 70 m and approximately five km from the coast, south-east of Pafos.

Among 130 moths returned to the UK was a member of the Crambinae, which was retained as it recalled an unknown species photographed at the same site in 2011. IB initially thought it might be of the genus *Donacaula* Meyrick, 1890, or perhaps a species of *Calamatropha* Zeller, 1863. It was dissected by IB, but he could find no match for the genitalia amongst the illustrations in Slamka (2008) which covers both the Crambinae and Cyprus. He therefore contacted František Slamka, who kindly identified the moth as a female *Chilo partellus* (Swinhoe, 1884), which has been given the preferred common name of Spotted stem borer (CABI – Invasive Species Compendium). František Slamka thought the nearest occurrences were in Afghanistan and Central Africa, and that this could be a new species for Europe, although with the caveat that Cyprus is rather outside 'classic' Europe. He also commented that the 2011 photo was also likely to be of this species, but for this family reference to the genitalia was essential, as there are many similar species.

IB contacted EJ to see if he was aware of any Cyprus records. In response, EJ made enquiries of entomological colleagues in Cyprus, the Agricultural Research Institute, Lefkosia (Nicosia), the Plant Protection Research Institute, Pretoria (where a reference collection of *C. partellus* is held) and the Natural History Museum, London, among others. Initially no records of *C. partellus* in Cyprus, or elsewhere in Europe, were forthcoming. However, information was later received from Ole Karsholt, via Bjarne Skule, of two unpublished records, listed below:

> 1♀, Garyllis River, 14 km N Limassol, 300 m, 27.vi.1997, leg. D. Nilsson *et al.*, genitalia slide Vilhelmsen 800 (ZMUC);
> 1♂, 1 km S Alassa, at River Limnatis, 250 m, 13.v.1999, leg. C. Hviid & B. Skule, genitalia slide Vilhelmsen 815 (ZMUC).

Distribution

C. partellus is a tropical species of Asian origin and a known invasive pest of cereals, including sorghum *Sorghum bicolour*, maize *Zea mays*, and pearl millet *Pennisetum glaucum*. Hutchison *et al*. (2008) list 11 countries in Asia and the Middle East where the species occurs: India, Pakistan, Afghanistan, Nepal, Bangladesh, Sri Lanka, Thailand, Laos, Vietnam, Yemen and Indonesia. It is also found in most eastern and southern sub-Saharan countries in Africa including: Botswana, Cameroon, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Somalia, Sudan, South Africa, Swaziland, Tanzania, Uganda, Zambia and the islands, Comoros and Madagascar. The authors also give a single record for Australia. Ben-Yakir *et al*. (2012) records its discovery in Galilee, Israel in July 2010, and noted that the species had been found all over the north of Israel by the end of 2011.

Identification

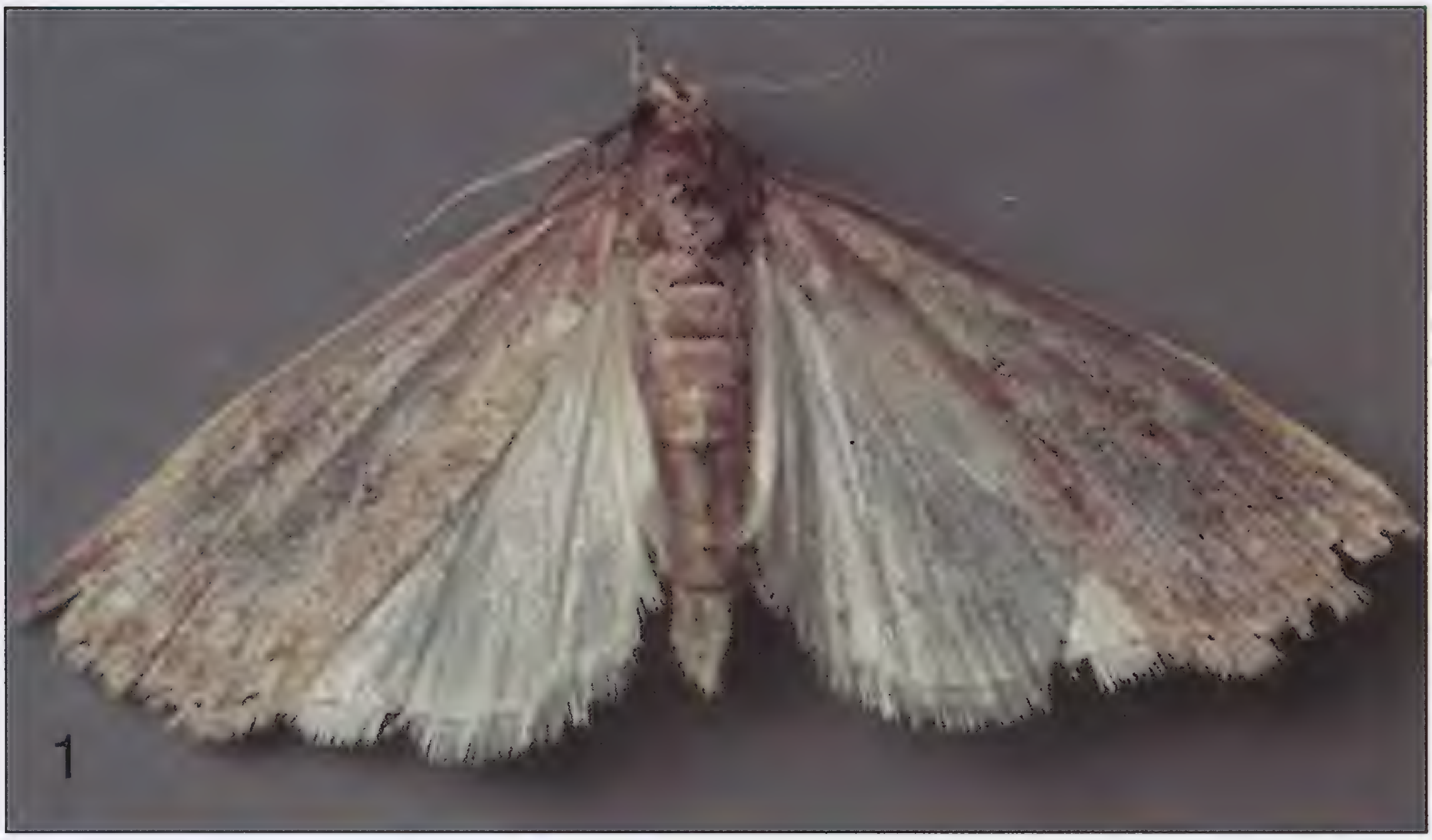
The species resembles many other members in its genus and identification is best confirmed by reference to the genitalia.

Head, antennae and labial palpi pale buff. Forewing light yellow-brown with darker brown scales. The darker scales may form one or two longitudinal lines, demarcate the ocellus and form dark interneural spots. The wing length is 7-17 mm, the female being the larger of the two sexes. The female moth caught in 2012 had a forewing length of 15 mm, but was well worn with a ragged termen. The hindwing is off-white, has a darker terminal line, and the fringe is concolourous.

Discussion

It is not possible to say how or when this moth reached Cyprus. However, such an invasive species could well have arrived unaided. Given the paucity of records, it is also not possible to say whether it is resident or if these three records are a chance reflection of primary migrations.

Despite being a serious pest species in other places, no information could be found about what effect, if any, it is having on crops on Cyprus (Vassilis Vassiliou, pers. comm.). However, *C. partellus* is known to utilise several uncultivated grasses (CABI - Invasive Species Compendium). There are several indigenous and non-native species from the families of known wild hosts, e.g. *Hyparrhenia*, *Panicum*, *Saccharum* and *Sorghum* that occur on the island (Hand *et al*., 2012), which may allow the moth to exist in the wider countryside. The larvae of *C. partellus* are known to go into diapause during periods of drought so a wild population may well be viable on Cyprus. Use of CLIMEX, a flexible modelling and mapping tool, indicates that many additional countries could be conducive for *C. partellus* establishment, including North, Central and South America, the Caribbean and Europe – including the southern UK (Hutchison *et al*., 2008).



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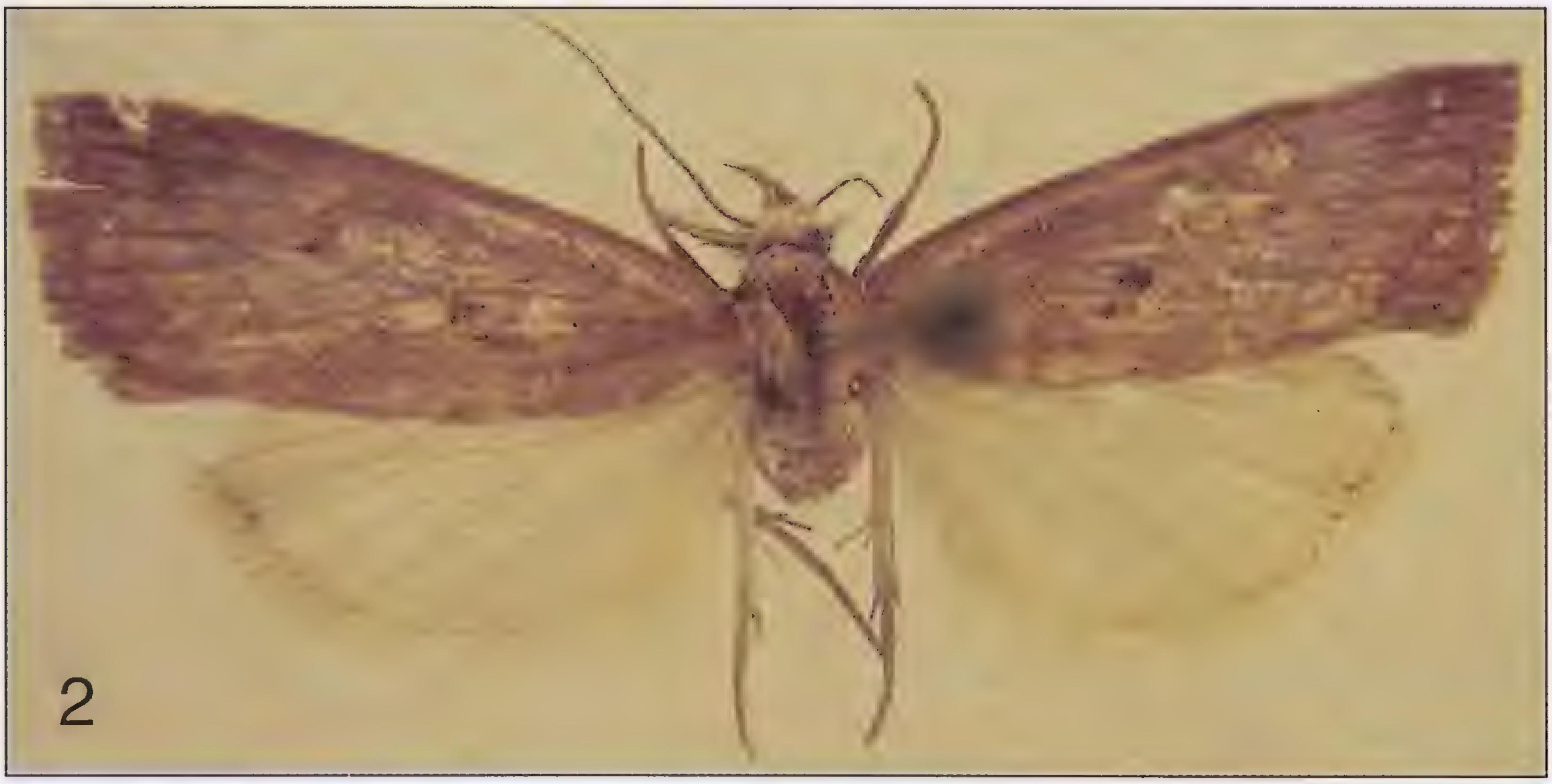

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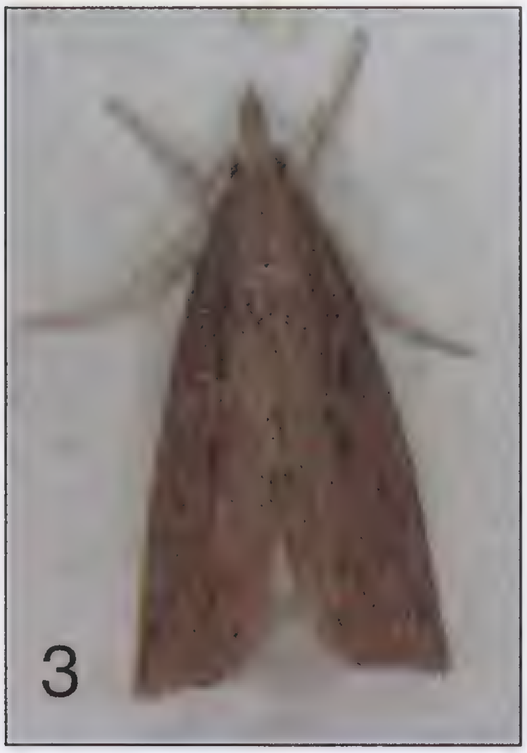

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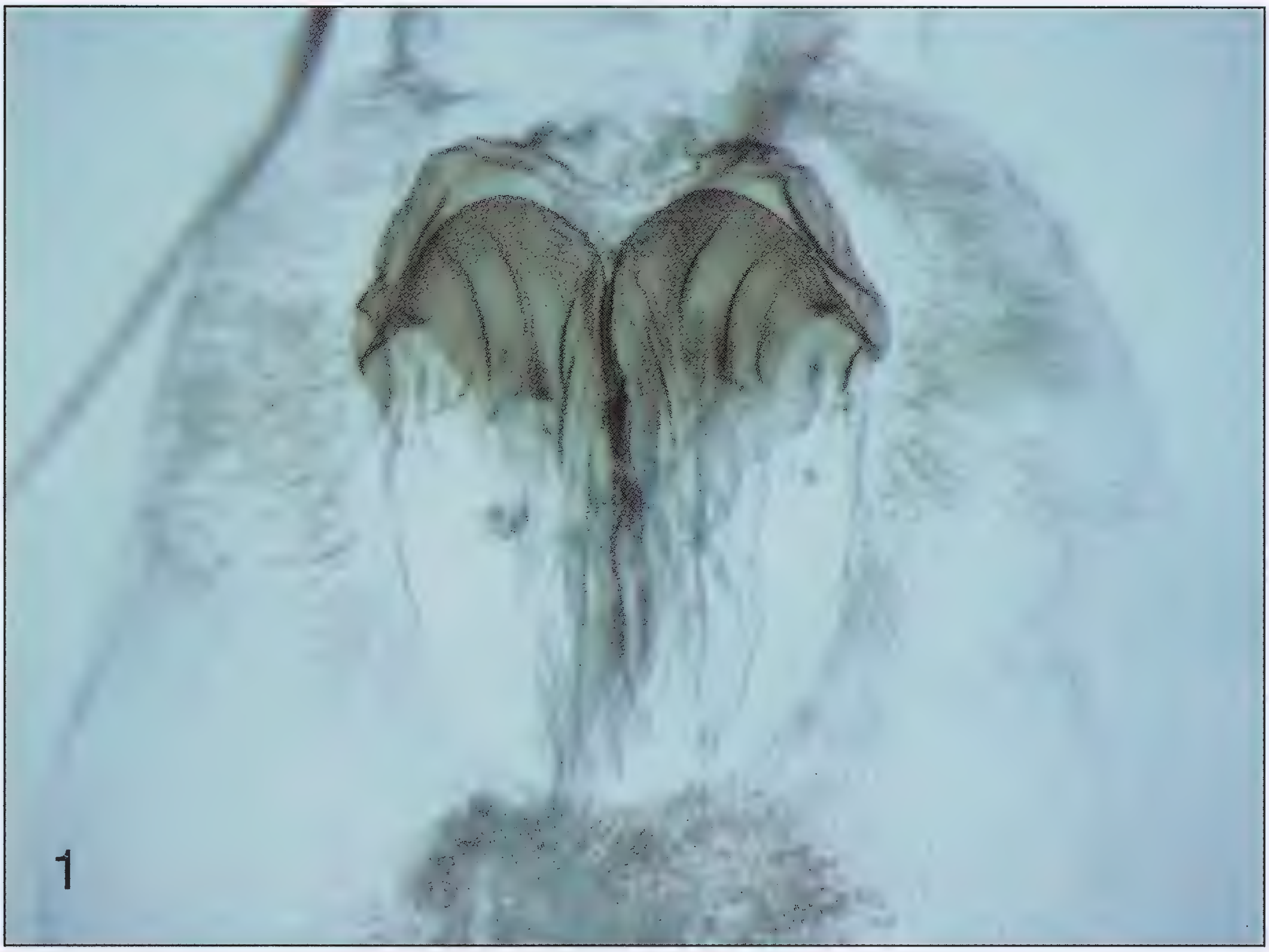
Plate 1. *Chilo Partellus* (Swinhoe, 1884) (Lep.: Pyraloidea, Crambidae). 1. Female, Nikókleia, Pafos, Cyprus, 14–27.iv.2012, leg. I Barton/K. Rosewarne. Photograph Ian Barton; 2. Female, Garyllis River, 14 km N Limassol, 300 m, 27.vi.1997, leg. D. Nilsson *et al.* (Photograph © Ole Karsholt); 3. Presumed *C. partellus*, Nikókleia, Pafos, Cyprus, 2011 (photo: Ian Barton).



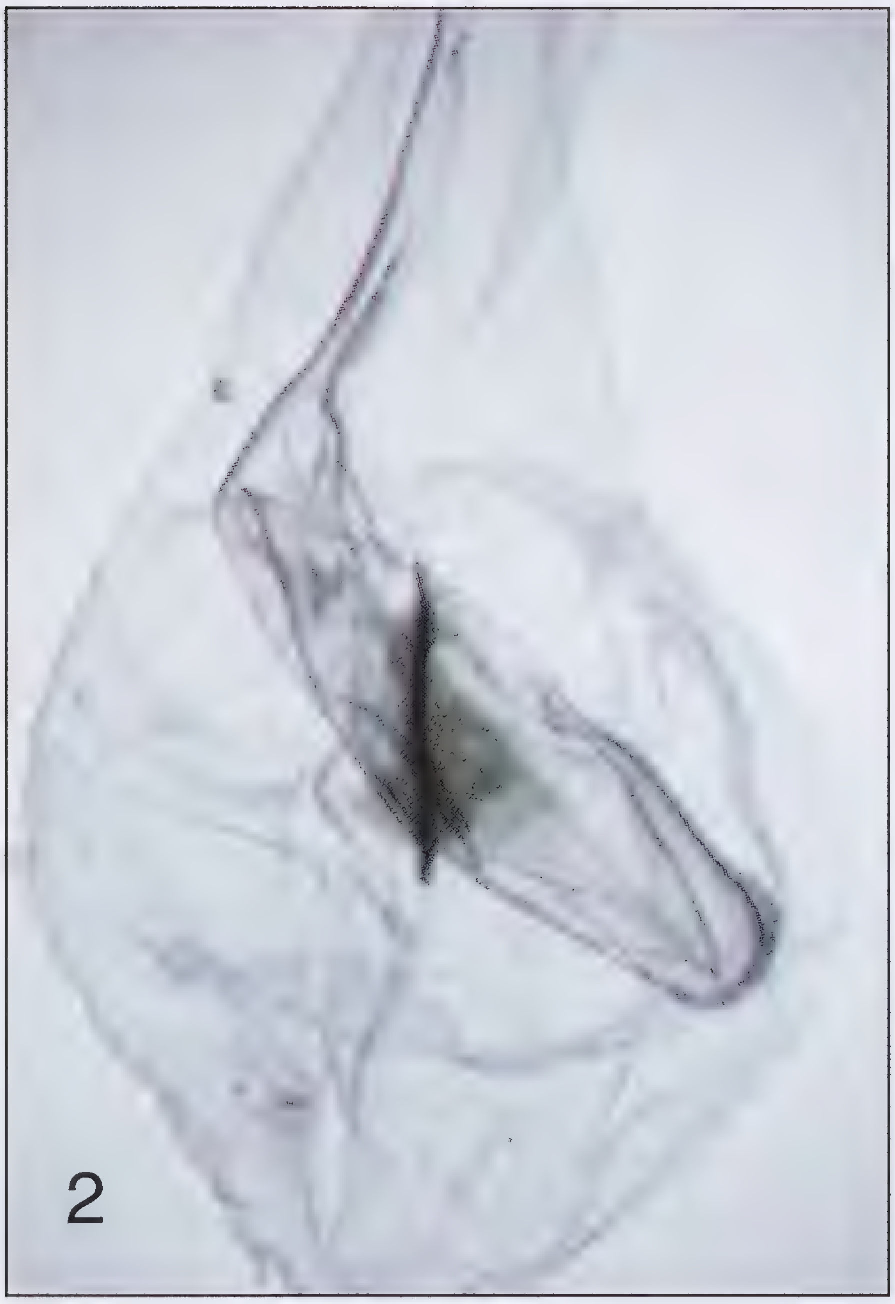


Plate 2. *Chilo partellus* (Swinhoe, 1884) (Lep.: Pyraloidea, Crambidae). Nikókleia, Pafos, Cyprus, 14–27.iv.2012, leg. I. Barton/K. Rosewarne (photo: Ian Barton). 1. Detail of sclerotisation of ostial area of genitalia; 2. bursa copulatrix and signum (photo: Ian Barton).

Acknowledgements

Our thanks go to František Slamka (Bratislava) for identifying the species, also to Ole Karsholt (Natural History Museum, Copenhagen, Denmark) for providing photographs of *Chilo partellus* and (via Bjarne Skule) information on previous records from Cyprus. Martin Honey (BMNH, London) helped with guidance on collecting techniques. At the BMNH (London), Andrew Polaszek, Martin Honey and Thomas Simonsen kindly assisted the third author with enquiries, as did Koen Maes (Wetteren, Belgium), David Ben-Yakir (Agricultural Research Organisation, Bet Dagan, Israel), Johnnie van den Berg (North-West University, Potchefstroom, RSA), and Rami Kfir (Plant Protection Research Institute, Pretoria, RSA); all are thanked for helpful comments and advice. Vassilis Vassiliou (Agricultural Research Institute, Lefkosía) helpfully assisted with enquiries relating to Cyprus. Colin Plant is thanked for his help and support in the preparation of this paper. Finally, IB and KR are grateful to the Department of Environment, Nicosia for the necessary licence to collect Lepidoptera on Cyprus. For licence application details see *http://www.cyprusbutterflies.co.uk/page21.html.*

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Strong indications of the establishment of the Hoary Footman, *Eilema caniola* (Hb.) (Lep.: Arctiidae) at Chorleywood, on the Buckinghamshire – Hertfordshire border

The Hoary Footman *Eilema caniola* (Hb.) is a resident and suspected immigrant that has been formally afforded Nationally Scarce, status. Until recently, its range within the British Isles has been mainly restricted to coastal areas of south-west England and Wales, but during the last decade or so it has been spreading eastwards along the south coast with occasional sightings inland. Some of these inland sites, in Berkshire, Hampshire, Kent, Middlesex, Surrey and Sussex, are said to be associated with quarries. The larval foodplants are lichens and algae growing on seaside cliffs and rocks, but it is also reported as feeding on bird's-foot trefoil and other leguminous plants.

On 11 September 2008 a female Hoary Footman came to my 125 watt MV Robinson pattern trap at Chorleywood (O. S. grid reference TQ 023963) – a suburban garden site in Buckinghamshire a few tens of metres from the Hertfordshire border. This moth, whose identity was confirmed by Colin Plant, was a county first for Buckinghamshire (VC 24). Although males are more often found in light traps, females tend to disperse for reproductive reasons, so this moth might well have been an immigrant.

A singleton also came to light at the same site on 10 August 2009, sex not recorded, and in 2010 there were single males on 1 July and 27 July 2010, confirmed by genitalia dissection by Colin Plant and Peter Hall respectively.

From the examples of E. caniola that I had seen I had good confidence in my ability to distinguish them, by visual examination, from the superficially similar Scarce Footman *Eilema complana* (L.). The size and resting positions are similar, but typical *caniola* has a silky, pale grey appearance with a rather faint pale yellow costa. The deciding factor, to me, is the upper surface of the hind wing, which is pale grey in *caniola*, but straw-coloured in *complana*. However, it is worth mentioning that Colin Plant has collected this species on many occasions in France, Spain, Hungary and Bulgaria and advises me that his moderate collection includes examples of both species that might easily be determined "by eye" as the other; consequently, examination of the genitalia is highly desirable in all situations where the either species is unexpected. In the males, this does not require dissection: careful brushing away of scales from the tip of the abdomen easily reveals the uncus which, in side view, is very different in each of these species (Plate 2).

None were seen here in 2011, but during 2012 a total of 25 *caniola* came to light. The first was caught on 25 July, then two on 26 July, one on 27 July, four on 1 August and three on 2 August. I was away from 3-10 August so the trap was not operated during this period, nor on the nights of 13 and 15 August. A further two were seen on 11 August, one on 14 August, five on 16 August, two on 17 August, then singletons on 18 and 19 August and on 13 and 17 September. After the first few had arrived, the unexpected abundance made me doubt my visual identification criteria, so all 25 were kept and later confirmed as *caniola* by Colin Plant. There were 22 males and three females.

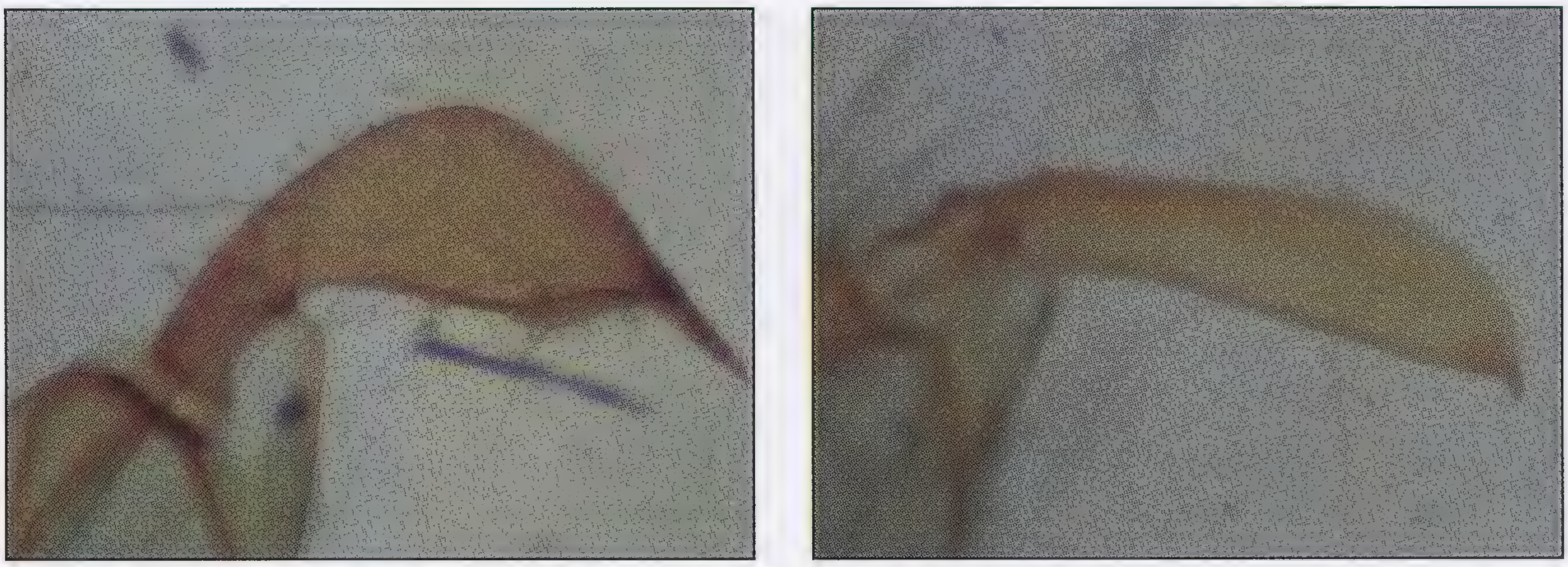

Plate 1. Lateral view of the male uncus of *Eilema caniola* (left) and *E. complana* (right).
Photographs © Colin W. Plant

Year	2005	2006	2007	2008	2009	2010	2011	2012
Number of *E. caniola*	0	0	0	1	1	2	0	25
Number of *E. complana*	110	153	51	24	25	29	6	29

Fig. 1: Annual records for *E. caniola* and *E. complana* at Chorleywood, Buckinghamshire.

There were three other records of *E. caniola* in VC 24 Bucks during 2012. Two males at Radnage, SU 791962, on 17 August (Ched George), and one male at Langley, TQ 019797, on 22 August (Rob Payne). None has yet been recorded in the neighbouring counties of VC 30 Beds, but there are now reports from both the adjoining counties of Hertfordshire and Middlesex (Colin Plant, personal communication). The abundance of *caniola* at this particular site in 2012 surely indicates the establishment of this species in the Chorleywood area?

A comparison of the annual records of the two species at this site (Fig. 1) is interesting; the rise of *caniola* seems to coincide with an apparent decline of *complana*, although the sample is far too small to be statistically significant.

My thanks to Colin Plant and to Peter Hall for dissecting specimens and confirming my identifications.

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Willow Ermine *Yponomeuta rorrella* (Hb.) (Lep.: Yponomeutidae) at Dungeness

During a trip to Dungeness with the Reading & District Natural History Society on 9 June 2013 there was much defoliation noticed on many of the willow *Salix* spp. and Blackthorn (*Prunus spinosa*) bushes around the RSPB nature reserve area. The larvae responsible were coloured green with large black spots and present in thick web colonies; those on willow were reared on and proved to be of the Willow Ermine *Yponomeuta rorrella.* Adults emerged on 23 July 2013. According to Sterling & Parsons (2012. *Field Guide to the Micro-moths of Great Britain and Ireland.* British Wildlife Publishing), larvae of this species are rarely observed in Britain; there must have been literally tens of thousands of larvae devastating the bushes. The larvae and also in this case pupae on the Blackthorn were not reared on, but may have been of the Orchard Ermine *Y. padella.*

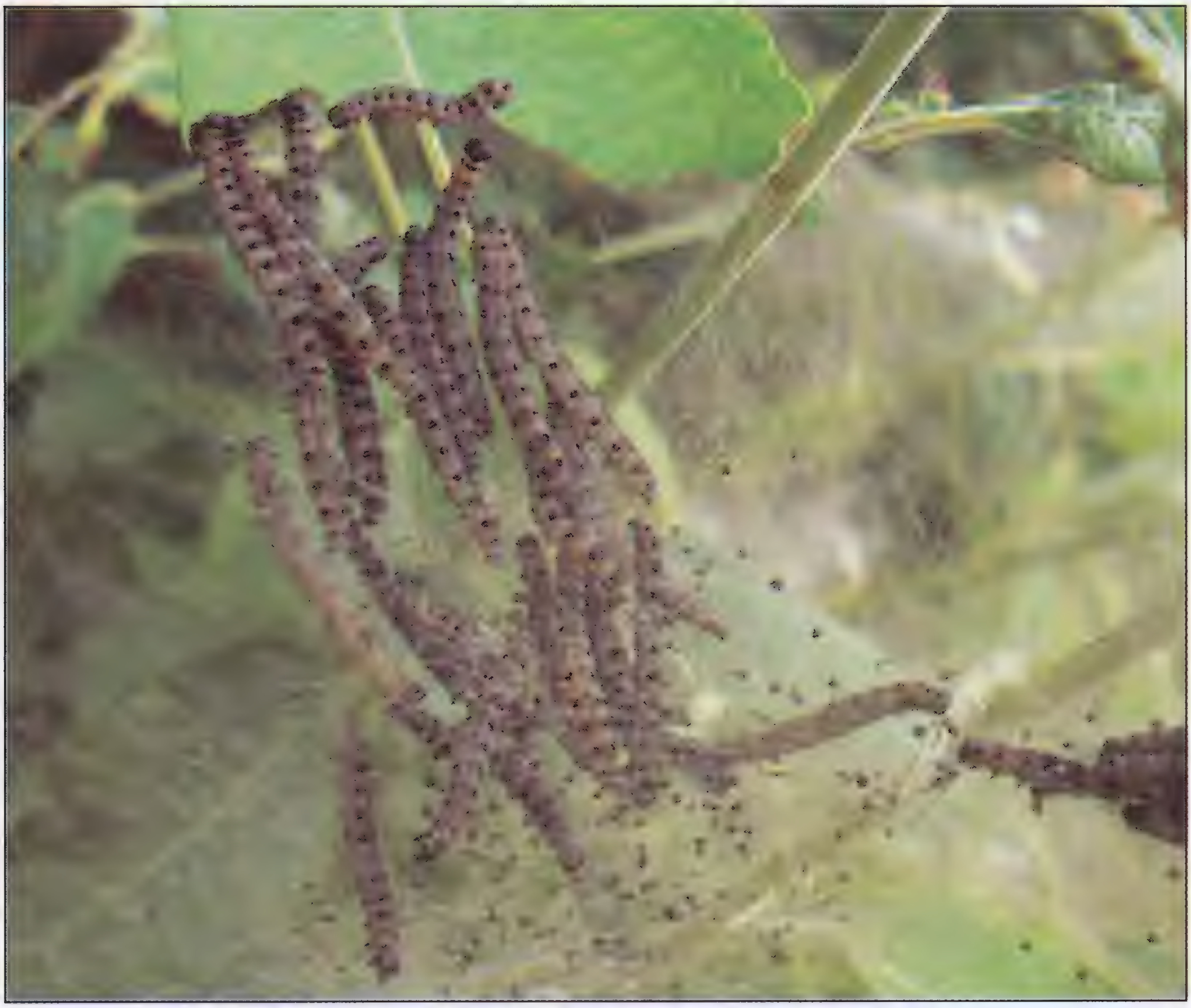

Plate 1. Larvae of *Yponomeuta rorrella* (Hb.) on *Salix* at Dungeness, Kent, 9 June 2013. Photograph © Laurie Haseler.

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HYDROPTILA VALESIACA SCHMID (TRICH.: HYDROPTILIDAE) NEW TO IRELAND WITH RECORDS OF TWO OTHER NOTABLE SPECIES

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Abstract

Hydroptila valesiaca Schmid is reported new to Ireland from two sites. *Ithytrichia clavata* Morton has been discovered at a second Irish site while *Tinodes maculicornis* (Pictet) has been found in south-east Ireland.

Keywords: Trichoptera, *Hydroptila valesiaca, Ithytrichia clavata, Tinodes maculicornis,* new records, Ireland.

Introduction

The senior author is compiling a detailed account of the Irish Trichoptera. This work involves the determination of a large amount of unidentified material collected by both authors over a forty year period as well as new collections to fill in known gaps in the available distributional information. The research has already revealed some new interesting discoveries, including a species new to Ireland and these are reported here. The specimens were identified using Malicky (2004), Marshall (1978) and Barnard and Ross (2012). Voucher specimens will be deposited in the National Museum of Ireland. The distribution of the three species are shown on longitude and latitude maps using the given Irish grid references.

Hydroptila valesiaca Schmid, 1947 (Hydroptilidae)

Kerry: Killarney V9786, Blue Pool, swept from vegetation beside a stream, ♂ 30 August 1987, JPOC. Kildare: Pollardstown (Newbridge) Fen N7616, swept from vegetation beside a stream near the Grand Canal, ♂♀ 11 September 1985, JPOC.

Hydroptila valesiaca is new to Ireland. It was added to the British list by Marshall (1977) based on two specimens from Scotland. Wallace (1991) remarked that the two known larval sites were small spring streams close to the sea but that there were inland adult records as well. Barnard and Ross (2012) mention that the species is not common in Scotland and also give the habitat as spring streams. The type series of *H. valesiaca* was collected on the banks of cool, clear streams in a damp and mossy meadow at 1200m in the Swiss Alps. Subsequently, additional specimens were taken in a peat bog at 1451m at another site in the Swiss Alps (Marshall, 1977). Since then, in addition to Britain, the species has been reported from the Czech Republic, Germany and Slovakia (Malicky, 2013). Numerous ♂♂♀♀ of *Hydroptila martini* Marshall were also present at the Pollardstown stream.

The two Irish sites are over 200km apart (Fig. 1) but both have spring streams that are calcareous in nature. The Blue or Cloghereen Pool is situated in the Cloghereen

Wood and is part of the Killarney National Park, Co. Kerry. Many theories have been put forward to account for the blue colour of the water but it is probable that it is the natural appearance of deep lime-rich water (Larner, c.1987). The pool is fed by land springs and a stream exits from it. Interestingly, this fast flowing stream is also the habitat for another rare Irish caddisfly *Philopotamus montanus* var. *scoticus* McLachlan, a variety which has not been found elsewhere in Ireland (O'Connor, unpublished data). J. J. F. X. King searched the stream for the normal *P. montanus* (Donovan) over a period of five or six weeks but could find none. He (1888) also remarked that both the lake and stream even during August were icy cold.

Pollardstown Fen is situated on the northern margin of the Curragh of Kildare, approximately 3km west-north-west of Newbridge. It lies in a shallow depression, running in a north-west/south-east direction. About 40 springs provide a continuous supply of water to the fen. These rise chiefly at its margins, along distinct areas of mineral ground above the fen level. The continual inflow of calcium-rich water from the Curragh, and from the limestone ground to the north, creates waterlogged conditions which lead to peat formation. There are layers of calcareous marl in this peat, reflecting inundation by calcium-rich water. It is the largest spring-fed fen in Ireland and owing to the rarity of this habitat and the numbers of rare organisms found there, the site is rated as of international importance and is a Special Area of Conservation (Anon, 2013).

Ithytrichia clavata Morton, 1905 (Hydroptilidae)

Kerry: Lough Derriana V6072, ♂ 6 July 1973, JPOC.

Ithytrichia clavata was first recorded from Ireland by O'Connor (1982) who reported 3♂♂9♀♀ from the River Curraheen (Q7811) on the Dingle Peninsula, Co. Kerry, in south-west Ireland. The river was torrential at the capture site with stones, rocks and boulders and only about 4m wide. Mosses, gravel and small waterfalls were also present. O'Connor (*op. cit.*) noted that he only identified the specimens when he was selecting caddisflies from his collection for the National Museum of Ireland i.e. nine years after the original capture. This is significant as the new specimen also originates from 1973, indeed the previous day, and too was unidentified, being merely labelled "*Ithytrichia* sp.?". L. Derriana lies at the top of the Cummeragh System and is nestled amid some of South Kerry's most spectacular mountain views. The specimen was swept from vegetation including trees and bushes on the exposed shore of the lake. However the River Cummeragh exits the lake at this point. O'Connor sampled the upper Cummeragh and the field diary description show that its characteristics are very similar to those of the Curraheen: "River appro[x] 5yds [5m] wide. Where sampled a ranging torrent over boulders, rocks & solid rock. However in places quiet eddies exist with sand gravel etc. Water celery present". There is little doubt therefore that the Derriana specimen originated in the adjacent Curraheen.

Ithytrichia clavata is a rare species in the British Isles. Barnard and Ross (2012) only report it from the Lake District, north-western Wales and southern England, but

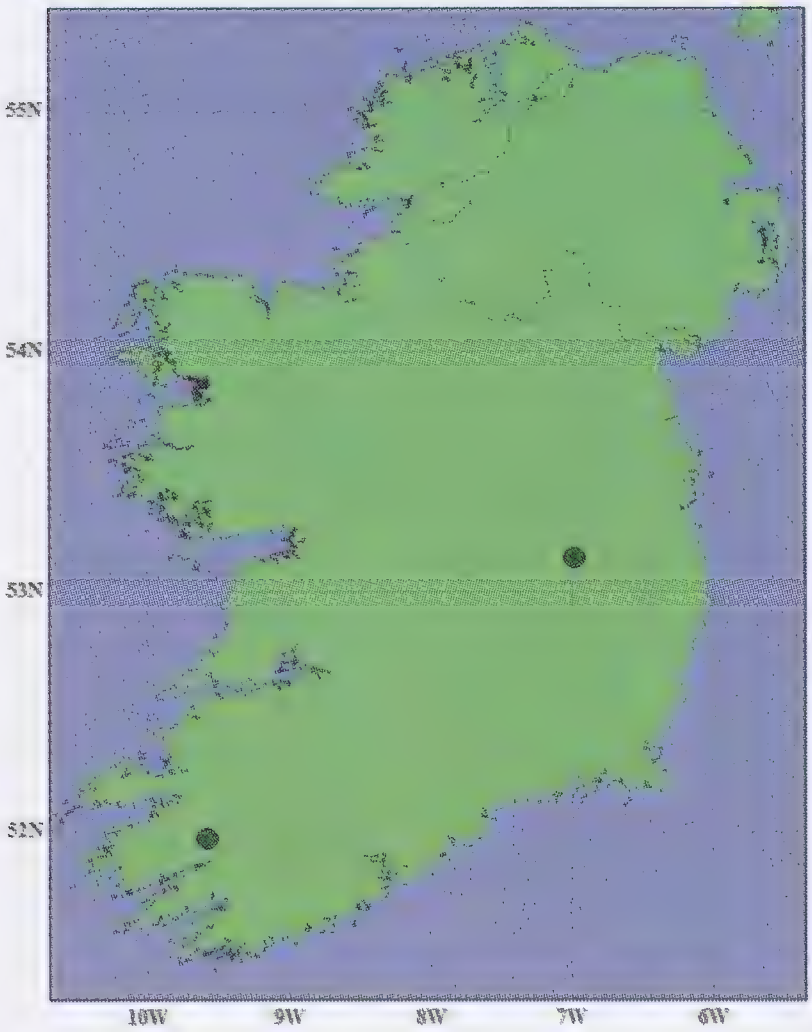

Figure 1. The Irish distribution of *Hydroptila valesiaca* Schmid.

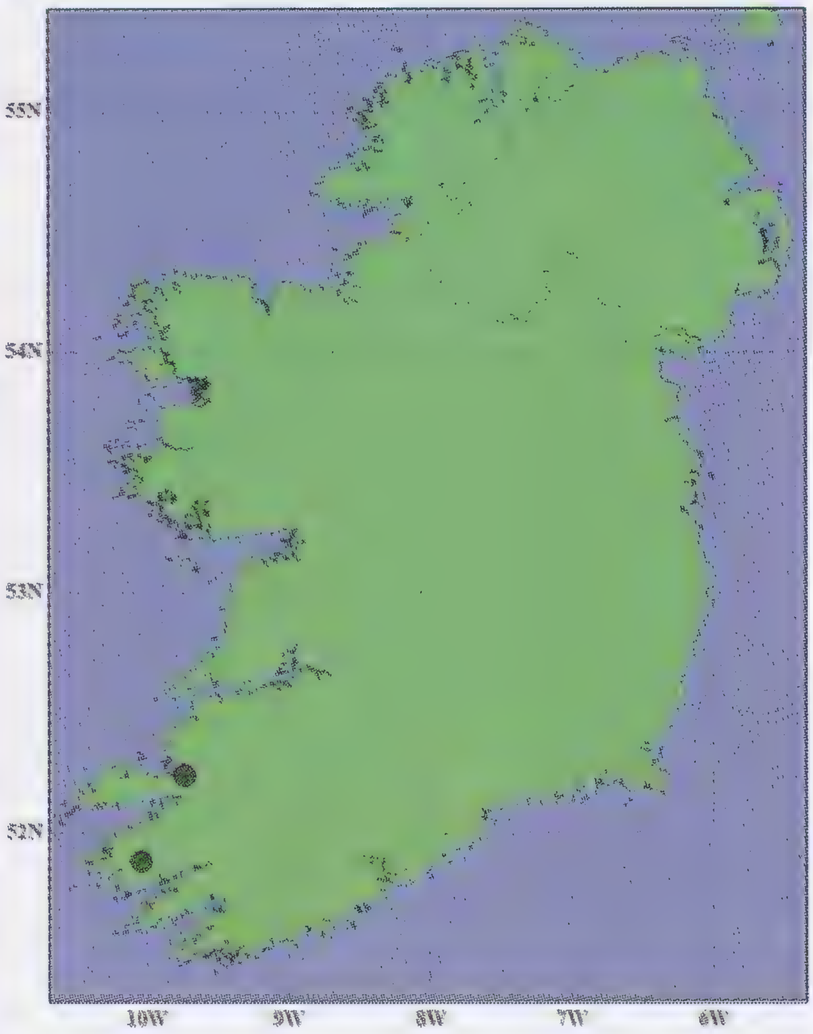

Figure 2. The Irish distribution of *Ithytrichia clavata* Morton.

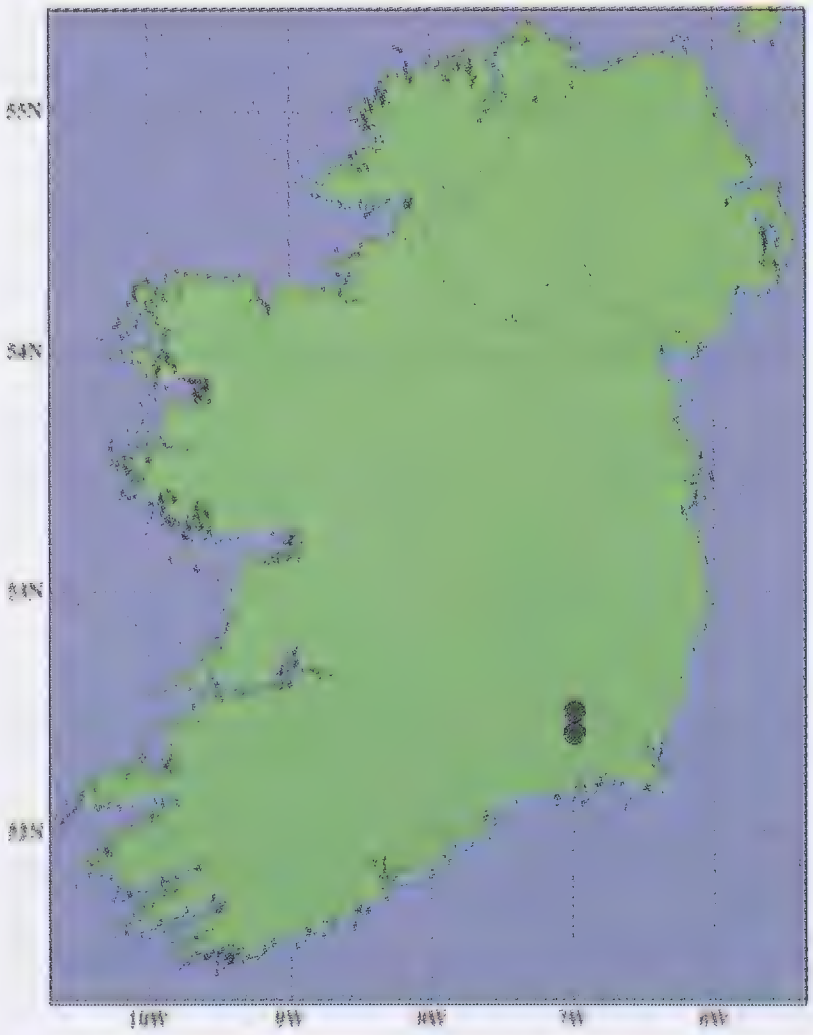

Figure 3. The new Irish distribution records of *Tinodes maculicornis* (Pictet).

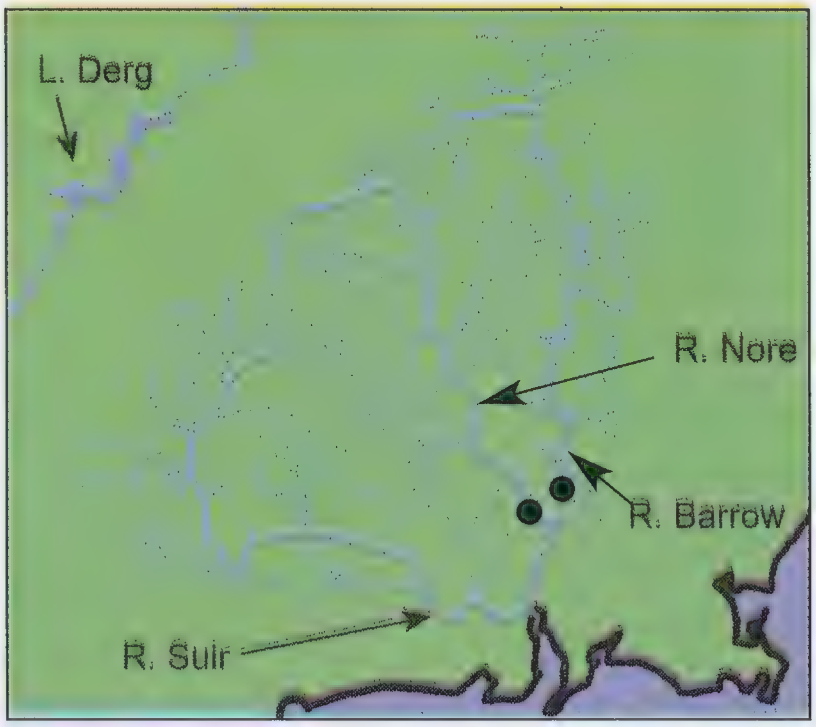

Figure 4. The catchment area of the Barrow, Nore and Suir Rivers. The new sites for *Tinodes maculicornis* are indicated by black dots on the relevant rivers.

with very few records. The new Irish record is from the Iveragh Peninsula which adjoins the Dingle Peninsula (Fig. 2), perhaps indicating that the species is widespread in fast rivers in the south Kerry area.

Tinodes maculicornis (Pictet, 1834) (Psychomyiidae)

Carlow: St Mullins S7237, swept from vegetation on the banks of a small river entering R. Barrow, ♂ 1 July 1991, JPOC & MOC; St Mullins S7237, ♂ 9 August 1994, JPOC. Kilkenny: R. Nore S6535, ♂ 13 July 2013, specimen flew on to a boat during a cruise near a ruined castle, MOC & JPOC.

Tinodes maculicornis, a species not found in Britain, mainly occurs in central Ireland but there are northern and more southern records respectively from Co. Donegal and Lough Derg on the lower R. Shannon system in Co. Clare. The larvae have been reported from calcite encrusted stones, rocks etc. in the littoral zones of lakes and their tubes are often embedded in this material (O'Connor & Wise, 1980). However, King (1889) found the species on a small river (Twy River, now known as the Breensford or Ballykeeran River) in Co. Westmeath.

The Carlow specimens are both probably from the same small river in St Mullins while the Kilkenny specimen flew onto the boat in an area where small streams and rivers enter the Nore (Fig. 3). The Barrow and the Nore unite before flowing into a third river, the Suir, which enters the sea south of Waterford. Known as "the three sisters", the three rivers together form a catchment area of 9,207Km^2 and drain a large portion of south-eastern Ireland including counties Carlow, Kilkenny, Tipperary, Waterford and Wexford (Fig. 4). The presence of *T. maculicornis* in this catchment therefore represents a significant expansion in its known distribution and the species may be common in many small rivers and streams throughout it.

Acknowledgement

The distribution maps of the three species were prepared using DMAP. The authors are indebted to Alan Morton for his kindness in supplying an easy to use programme which enabled Irish grid references to be plotted on maps showing longitude and latitude.

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An observation of apparent dispersive movement in Long-tailed Blue *Lampides boeticus* (L.) (Lep.: Lycaenidae)

Although the literature (e.g. Asher et al., 2001. *The Millennium Atlas of Butterflies in Britain and Ireland.* OUP; Newland & Still, 2010. *Britain's Butterflies A Field Guide to the Butterflies of Britain and Ireland,* second edition. WildGuides) routinely describes the Long-tailed Blue *Lampides boeticus* as a migratory species, I was unaware that little written evidence exists of migratory activity in this species, although many other migrant species have documented witness accounts of such events. It is documented that the species has been introduced (in the larval form) to various countries inside imported leguminous foodstuffs, for example by Emmett & Heath (eds, *The moths and butterflies of Great Britain and Ireland 7(1): Hesperiidae - Nymphalidae)* Harley Books) and Asher et al. (*op. cit.*) whilst the British Butterflies website (*http://www.britishbutterflies.co.uk/species-info.asp?vernacular=Long-tailed+Blue*) lists four such imports. Accounts of dispersive movement are important to support the claim that this is a migratory species. By dispersive is implied an apparent movement of many individuals away from a location (and often in one direction), as opposed to mate location or foraging behaviours, for example, which rarely occur with many individuals all moving in a similar direction. The assertion that the Long-tailed Blue is a migratory species is widely repeated in texts and may be based upon the sudden appearance of adults at coastal locations during periods of migrant activity and where no immature stages were previously known to have been present.

On 4 April 2013, I was at Evretou dam, a reservoir in south-western Cyprus, when I became aware of a northward movement of Long-tailed Blue. The species is resident on the island and believed to both disperse from areas of high population density within the island and also to pass through on migration from Africa. Accustomed to calculating the rate of migrating Red Admiral *Vanessa atalanta* (L.) and Painted Lady *V. cardui* (L.) in the UK I started a timed count between two fixed points for my own interest. Observing from a fixed position on a grass bank and across a track, at an approximate distance of 3m from a natural 'hedge', bordering the reservoir, I counted the passing Long-tailed Blues. No doubt the habitat boundary/barrier of the large open expanse of water and the protection of the shrub belt from a stiff wind blowing over the reservoir, concentrated butterflies onto this track. I had been aware of the movement for some 15 minutes prior to making the count. Separated by an interval of perhaps 20 minutes, I made two timed counts of one minute each, of what had become a fairly steady stream of individuals and small groups all heading slightly east of due north. Flight followed a course largely along the 'hedge-line' of scrub bordering the reservoir's shoreline, consequently out of the full force of a stiff south-westerly wind.

In the first minute, at approximately 13.45 hours (local time) I counted five individuals. In the second, approximately 20 minutes later, I counted only three, but felt this was a un-representative 'minute' and immediately repeated that count. I achieved a count of four in the next minute. Subjectively I felt that the number passing per minute was higher. If I had realised the potential importance of the observation I would have made more effort to establish a reliable rate of movement. However, it seems reasonable to assume that about four individuals were passing over a three-metre wide strip each minute for at least 35 minutes, flying at a height of roughly 1-2.5m.

Later in the afternoon (at about 15.00 hours), the movement had reduced to one butterfly every few minutes, but the directional nature of the movement was still obvious with only a single Long-tailed Blue butterfly observed heading in any other direction, at that position, all afternoon. Most of the butterflies were moving "single-mindedly". The few that paused to nectar, resumed their flight in the same direction. I estimate that I saw 150 – 200 Long-tailed Blue all headed in the same direction.

No other butterfly species displayed dispersive movement, though 14 species were identified flying there that afternoon, including other species described as 'migratory', such as Small White *Pieris rapae* (L.) Large White *P. brassicae* (L.) and Painted Lady *V. cardui*.

I am grateful to the recorder of butterflies of Cyprus (Eddie John), who asked for detail (realising the rarity of such a record) and checked with his correspondents for similar observations. No other observer on the island that day or during a period of days spanning the observation saw any similar movement, indicating that the passage was one of localised dispersal.

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Diptera additions to the leaf mine host plant list

An up to date record of the host plants of leaf mining insects in Britain is maintained by Colin Plant and Brian Pitkin on the British leaf miners web site at *http://www.leafmines.co.uk/html/plants.htm*; this is a valuable resource for checking potential new host plant associates, of which there are probably many that remain undiscovered or unreported. The following two appear to be new.

(i) Chromatomyia horticola (Goureau, 1851) – Agromyzidae

On 2.vii.2013, I noticed leaf mines on Rocket *Eruca sativa*, which was growing in my garden. The only leaf miner known from this host was the agromyzid *Liriomyza huidobrensis* (Blanchard, 1926) and this was in quarantine only (Pitkin, 2013, personal communication). The mines on *Eruca* were long and serpentine, with widely spaced frass grains and there was a pupa at the end of the mine. The agromyzid *Chromatomyia horticola* (Goureau, 1851) is known from this host in Europe (see *www.bladmineerders.nl*) and these mines matched this species. To confirm this identification I reared the fly and it duly emerged on 10.vii.2013. Thanks to Brian Pitkin for confirming this record.

(ii) Scaptomyza flava (Fallén, 1823) – Drosophilidae

Looking at Peas *Pisum sativum* in my garden on 11.vii.2013 I found leaf mines which I initially thought were the agromyzid *Agromyza lathyri* Hendel, 1923. Discussions with Willem Ellis were very helpful here and highlighted that it was difficult to distinguish between mines of this species and those of *Scaptomyza flava* in the thick fleshy leaves of this host. A feature of the *Scaptomyza* mines is the presence of greenish frass and this was duly found on opening a mine. Confirmation of *Scaptomyza flava* larvae mining *Pisum* came on 10.vii.2013, when a larva pupated. The pupa is very distinctive, with three projections on the anterior spiracles. I am grateful to Brian Pitkin for confirming my identification.

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The first record of *Acrolepia autumnitella* Curtis, 1838 (Lep.: Glyphipterigidae) in Scotland

Alison Robertson noticed a moth at the window of The Crichton conference/business centre, Dumfries (O. S. grid reference NX 985743, VC 72) on 14 August 2013 and found it to be an unfamiliar micro moth (Plate 1, Fig. 1). It looked very similar to some photographs on the internet of *Acrolepia autumnitella*, a species mainly in the south and midlands of England. This was perplexing. However, two days later, armed with knowledge of its foodplant, Alison checked for Bittersweet *Solanum dulcamarra* at The Crichton and found four leaves with tenanted mines (Plate 1, Fig. 2). The

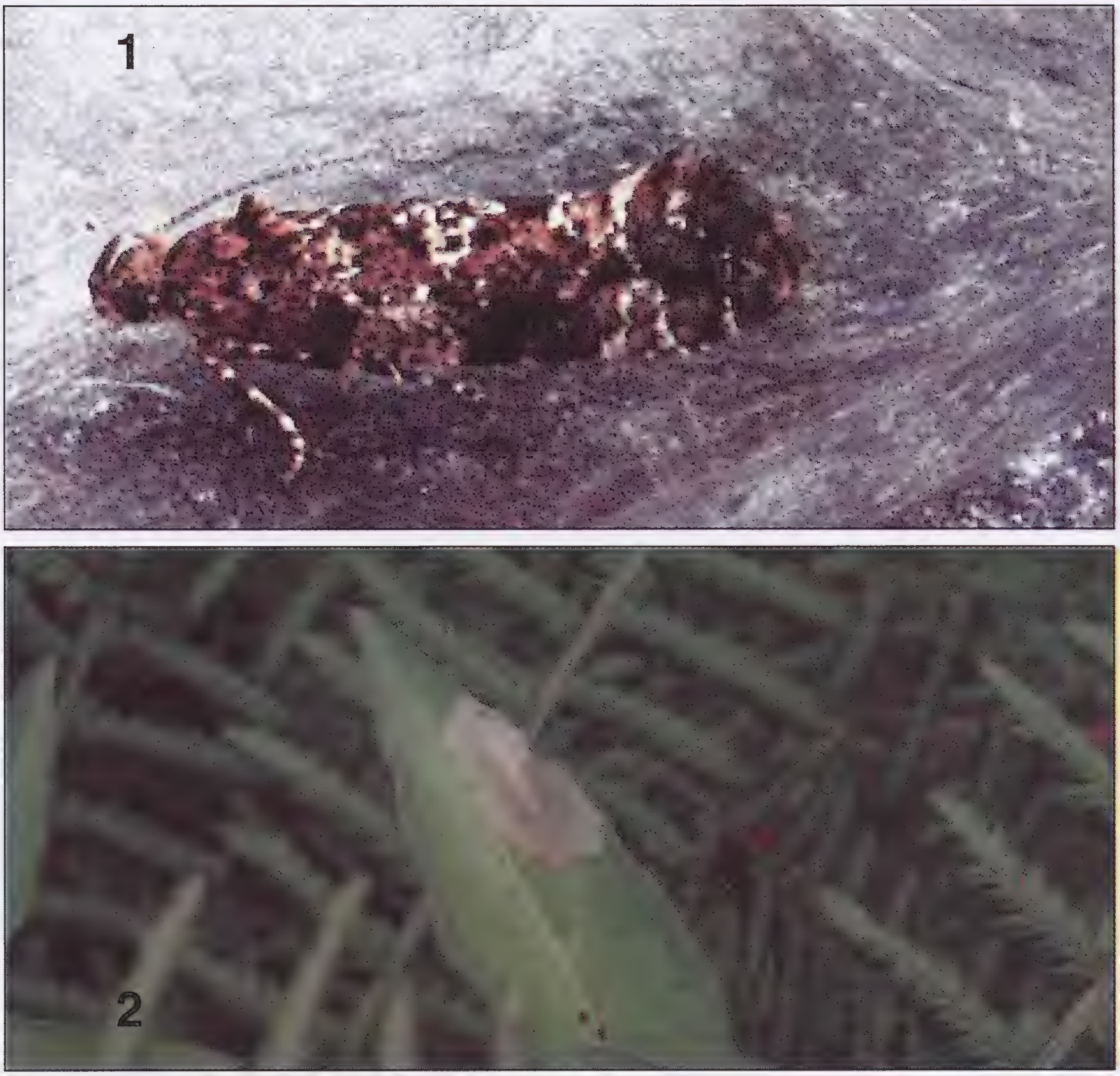

Plate 1. *Acrolepia autumnitella* Curtis, Dumfries, 2013. 1. adult moth; 2. larval mine in leaf of *Solanum dulcamarra.*

selection of photos were sent to Mark Young, keeper of the Scottish micro moth list, who confirmed its identity and the fact that it was new to Scotland.

One of the foremost lepidopterists of our Region, William Lennon, who worked at The Crichton when it was a Sanitorium, also caught a "first for Scotland" there on 6 September 1865. He noticed a strange micro moth on the outside of a window, but he was on the inside and to obtain it he broke the glass and caught it. It turned out to be *Euchromius ocellea* (Haw.), the first for Scotland and only the third for Britain. H. G. Knaggs, the editor of the *Entomologists' Monthly Magazine* **3**: 139, took it to the British Museum and compared it with the only known specimen there. The other was caught in Glamorganshire in 1862. So you see lightning does strike twice!

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Signs of migration of Lepidoptera at high altitude in eastern Switzerland

On the nights of 8 and 9 August 2013, I camped by the roadside near the top of the Albula Pass in the Graubünden Canton of Switzerland at an altitude of 2300 metres above sea level. In this part of the pass the habitat is steep rock to the summit with sparse vegetation; it was disturbing to hear rock falls during the night and in the morning to see rocks as big as dinner plates falling only a few metres from the vehicle. The weather had been poor for two days with heavy rain and low temperatures. A strong wind blew from the south-east. On the night of 8 August the temperature when I started the mv light was 9ºC degrees and at dawn it was 7ºC. In addition to a very few resident moths, there were two *Diasemia reticularis* (L.), nine *Agrius convolvuli* (L.), 20 *Autographa gamma* (L.) and two *Agrotis ipsilon* (Hufn.), all of which were assumed to be on migration. The migrant moths were released onto the rocks and it was interesting to note that the *convolvuli* did not move their position throughout the day's violent weather, but remained alert nevertheless and flinched at my approach. One or two may have been predated by a Weasel (*Mustela nivalis*), which was seen searching the rocks.

After atrocious weather throughout the day (I hate Switzerland) the temperature was 5ºC at dusk and 2º at dawn; although by then it had stopped raining. The second night saw as migrants a single *Acherontia atropos* (L.) on the ground near the trap, two *A. gamma*, one *Amphipyra pyramidea* (L.), one *Noctua pronuba* (L.) and one *N. fimbriata* (Schreber). The *convolvuli* on the rocks did not move during the night, but were still as alert as before.

The species seen over the two nights are as follows:

Residents

Geometridae
Four *Mesotype verberata* (Scopoli) including f. *vogesiaria* Peyerimhoff, 1880

Erebidae
One *Arctia (A.) flavia* (Fuessly)

Noctuidae
One *Dichagyris renigera* (Hübner)

Two *Agrotis fatidica* (Hübner)

Four *Xestia (Pachnobia) alpicola* (Zetterstedt) ssp. *ryffelensis* Oberthür

Assumed migrants

Crambidae
Two *Diasemia reticularis* (Linnaeus)

Sphingidae
Nine *Agrius convolvuli* (Linnaeus)

One *Acherontia atropos* (Linnaeus)

Noctuidae
22 *Autographa gamma* (Linnaeus)
One *Amphipyra pyramidea* (Linnaeus)
Two *Agrotis ipsillon* (Hufnagel)
One *Noctua pronuba* (Linnaeus)
One *Noctua fimbriata* (Schreber)

It would seem that these moths moving north through Europe are funnelled through the high passes and if caught by inclement weather are capable of surviving for a time before continuing their journey – at least as far as the larger moths are concerned.

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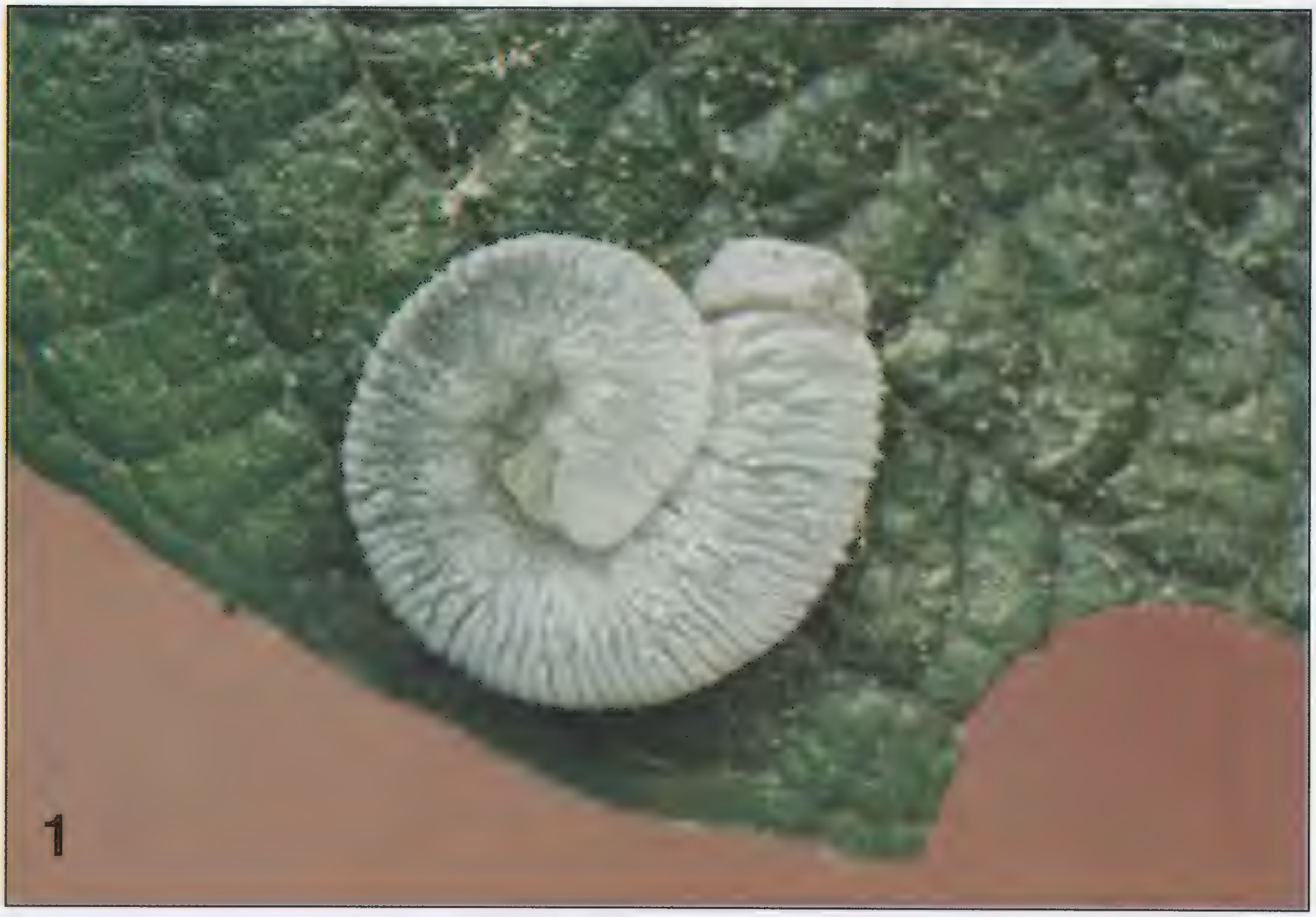
Cimbex luteus **(L.) (Symphyta: Cimbicidae) feeding on sallow** ***Salix*** **sp.**

On 23 June 2013 we were in the Cranwich Heath area of the Breckland and were looking at *Phyllonorycter* mines on sallow (possibly *Salix caprea*) when a small cimbicid larva was found in the characteristically curled up resting position of that family, on the underside of a partly eaten leaf (Plate 1, Fig. 1). It was reminiscent of *Cimbex luteus* larvae we had previously reared through, on smooth leaved *Salix* sp, from a female we found 8 July 2007 (Barton, 2007. *Cimbex luteus* (L). Sawfly Study Group Newsletter, December 2007, Liverpool (3): 9). We could find no reference to *C. luteus* using sallow and R. B. Benson's handbook (Benson, 1951. Hymenoptera, Symphyta. *Handbooks for the Identification of British Insects* **6**(2a): 1-49. Royal Entomological Society) as well as the later edition of this key (Quinland & Gould, 1981. Symphyta (except Tenthredinidae). Hymenoptera. New edition. Handbooks for the Identification of British Insects **6**(2a): 1-67. Royal Entomological Society) give smooth-leaved *Salix* and *Populus* as foodplants. We contacted Guy Knight to ask if he was aware of any similar records, after pointing out we had no information on or experience of similar large cimbicids in the genus *Trichiosoma.* GK responded that given the now developing dorsal stripe and food plant *Trichiosoma* could be discounted. Also that he knew of published records from Finland of *C. luteus* using sallow (Kontuniemi, 1960. Suomen sahapistiäistoukkien ravintokasvit. Die Futterpflanzen der Sägewespenlarven (Hymenoptera, Symphyta) Finnlands. *Animalia Fennica* **9**: 1-104) and also two recent unpublished UK records from Hitchin, Hertfordshire and Ramsey, Cambridgeshire.



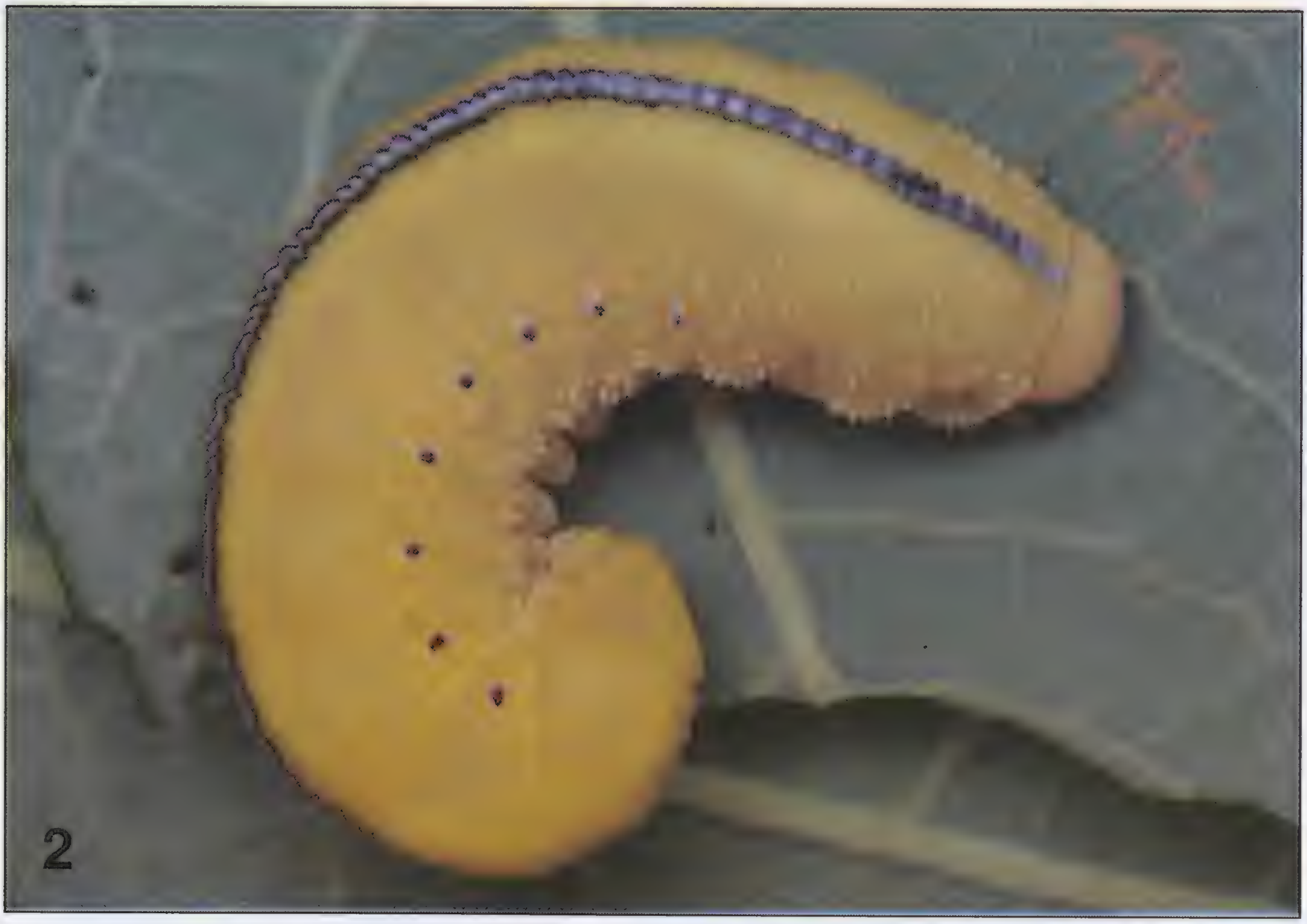


Plate 1. *Cimbex luteus* larva. 1. The larva on 24.vi.2013; 2. the same larva when fully fed, on 12.vii.2013.

The larva fed on sallow leaves we provided, obtained from various trees near to home. Initially we were worried about getting the food plant right, avoiding a 50 mile round trip to get food from where we found it (as, in 2007, we inadvertently killed several larvae by feeding them what we thought was the same kind of willow the female was found on … losing the lot was only averted by providing leaves from a tree on which we had found 4 'wild' *Cimbex luteus* larvae on 19 August that year).

It was fully fed by 12.vii.2013 and at this point it was about 52-53 mm in length (Plate 1, Fig. 2). After the final dropping was passed the larva remained outwardly inactive for around eight hours before descending from the food plant to search for a pupation site, which in this case was a netted yellow bucket with drainage holes, half filled with sterile soil, topped off with dead willow sticks and small logs. If it survives it could emerge next year though we have had a *Cimbex connatus* (Schrank, 1776) emerge after two years.

Although this insect has always been, and remains, rare in Britain, GK also noted an apparent increase in the frequency of records of this species in recent years, especially from the south-east and east of England. The related species, *Cimbex connatus* has had a dramatic resurgence in Britain in the last few decades and is now widespread in much of southern and eastern Britain after not being recorded here in the half century prior to this. Perhaps it is now easier to recognise and record these impressive insects than it once was and it remains unclear whether *C. luteus* is also genuinely increasing. GK would be pleased to hear of any further recent records.

I would like to thank Guy Knight for his help with records and for his helpful comments on this note.

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Phytomyza hellebori **Kaltenbach, 1872 (Dip.: Agromyzidae) now on** ***Helleborus niger*** **(Christmas Rose) in the UK**

It has become customary for my Sunday afternoons to be spent taking my partner's elderly mother to various private gardens open under the National Gardens Scheme. As well as pointing out the names of various unusual plants or shrubs to her (that is, when I know them!), these occasions allow me to search for leaf mines on what would otherwise be private property. The Stinking Hellebore *Helleborus foetidus* is a common garden plant and my NGS visits have shown the mine *Phytomyza hellebori* to be frequent on these plants. This was the case at Garden House, Swan Lane, Pluckley (VC 15, East Kent) on 30 June, 2013. However, near the entrance to the garden as we departed I caught sight of a mine on a leaf of the Christmas Rose *Helleborus niger* (Plate 1). This was a plant I had often examined for mines, but which had always in my experience been mine-free.

Being temporarily without hand lens or camera (those having been mislaid along with other precious possessions in France on my return from holiday the previous

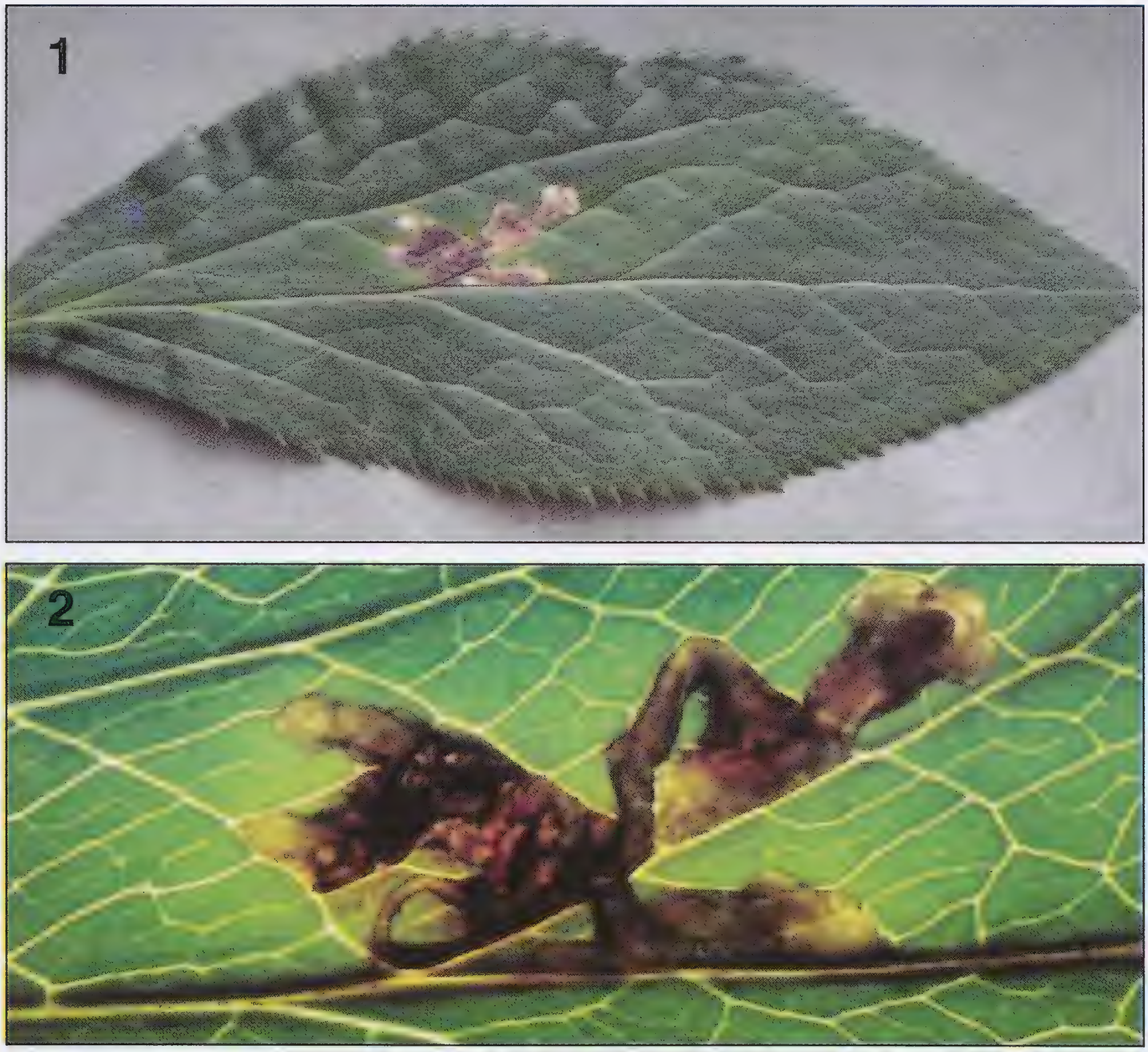

Plate 1. Mine of *Phytomyza hellebori* on *Helleborus niger,* Pluckley, East Kent, 30 June 2013. © Keith Palmer. 1 Whole leaf; 2. Detail.

day), I lost no time in sending the actual specimen to Rob Edmunds. He believed it to be *Phytomyza hellebori* and kindly checked with the European agromyzid expert Dr. Michael von Tschirnhaus who confirmed that it was indeed a mine of this species. In his reply to Rob he commented that *Phytomyza* species on the Ranunculaceae are very host-specific as far as food-plant genera are concerned, but less so with respect to food-plant species. He also said that worldwide no other agromyzid is known from *Helleborus*. This mine has been recorded on *Helleborus niger* in the Netherlands, but according to the constantly updated hostplant list maintained by Colin Plant and Brian Pitkin at *www.leafmines.co.uk*, not previously in the UK. This record therefore represents the first known record of the mine on *H. niger* in this country.

I would like to thank Rob Edmunds for attending so promptly to my sent specimen and Dr.Michael von Tschirnhaus for confirming the identification and for his further helpful comments.

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Beautiful Snout *Hypena crassalis* (Fabr.) new to Scotland and Southern Wainscot *Mythimna straminea* (Tr.) new to Central Scotland (Lep.: Noctuidae)

In April 2013, David Smith, an inexperienced moth enthusiast, informed the author that on 27 May, 2012 he had found a Beautiful Snout *Hypena crassalis* on the north bank of The Narrows between the two parts of Loch Ard, near Aberfoyle in the Trossachs (O.S. grid reference NN 486015, VC 87). His claim was supported by an excellent, dated photograph (Plate1) and clear recollection of the site of discovery. The site was closed woodland of mainly oak *Quercus* sp. with considerable Bilberry *Vaccinium myrtillus*, the foodplant of Beautiful Snout, in the understory.

The Beautiful Snout had not been previously recorded in Scotland. Its distribution in the UK is mainly southern England, through Wales and in western England as far north as Cumbria (Heath, J. and Emmet, A. M., 1983. *The Moths and Butterflies of Great Britain and Ireland*, volume 10). Nevertheless, the species does appear to be becoming more widespread in the north of its range (2010, Hill, L., Randle, Z. Fox, R. and Parsons M., 2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation, Dorset). It was new to Lancashire in 2001, was not recorded there for a second time until 2007, but is now known from nine separate locations in the county (Steve Palmer, personal communication). It was first recorded in Northumberland in 2010 (Tom Tams, personal communication).

Given the considerable distance that the Trossachs record was from the known distribution of the species, it appeared prudent to delay reporting its discovery in central Scotland until its presence as a resident could be confirmed. Thus, from early June 2013, Arthur and Jane Jones, initially accompanied by the author, ran UV light traps at the site of the 2012 record. Early attempts failed, but Arthur and Jane persisted and on 21 June they caught six Beautiful Snout on the opposite bank of the Narrows of Loch Ard. On 7 July, they caught another in their garden above the eastern end of the loch.

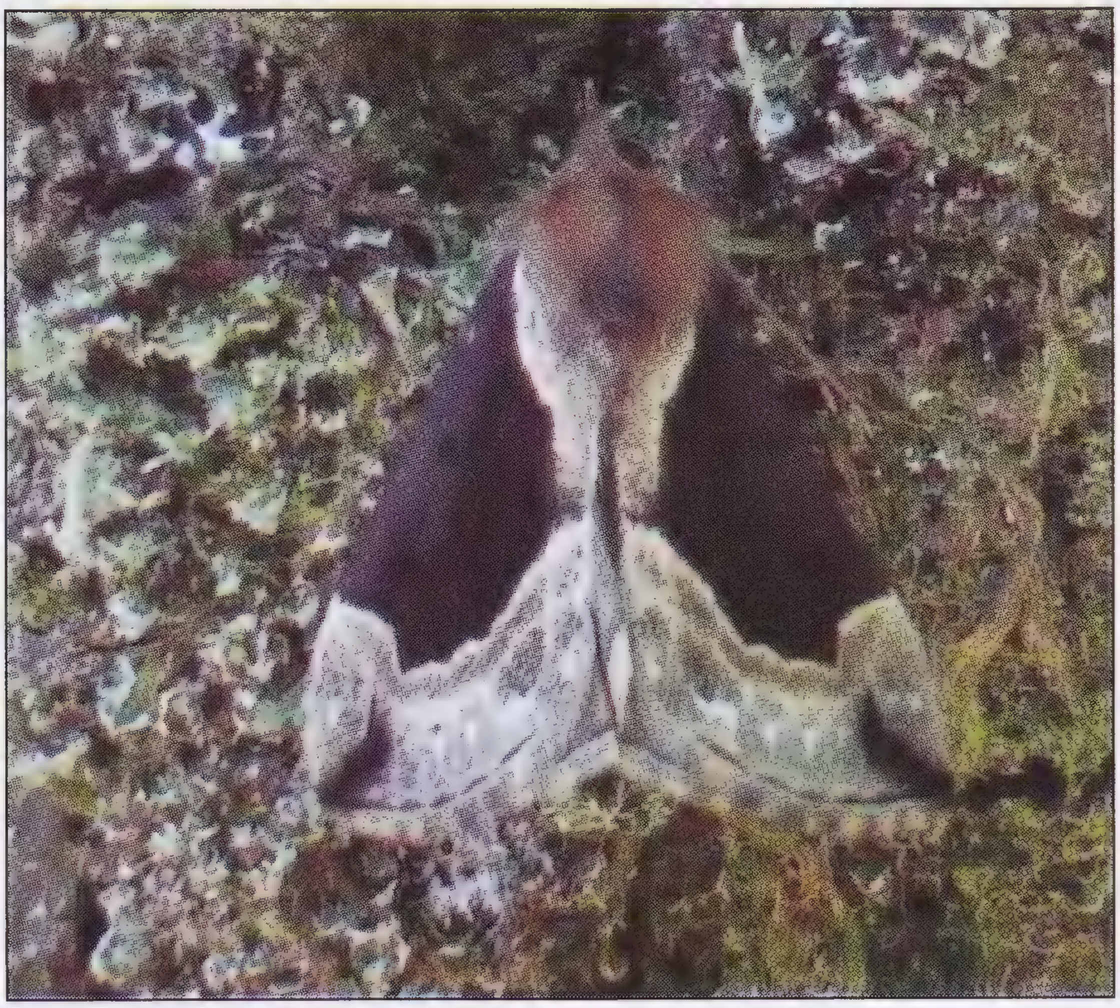

Plate 1. *Hypena crassalis* (Fabr.) Beautiful Snout, Loch Ard, 27 May, 2012. © David Smith

It is clear that the Beautiful Snout has established itself in at least one area of the Trossachs, but it remains to be seen how widely it has spread. A Rothamsted light trap is run daily at Rowardennan on the eastern shore of Loch Lomond, 13 km from the Narrows of Loch Ard. It is also in oak woodland with a bilberry-rich under-story and is the only known location in central Scotland for the Bilberry Pug *Pasiphila debilata* (Hb.). So far it has produced no records of Beautiful Snout.

The Beautiful Snout adds to a substantial list of moth species that have moved north into central Scotland perhaps in response to climatic change. Since 2000 they have included Red-necked Footman *Atolmis rubricollis* (L.), Slender Brindle *Apamea scolopacina* (Esper) the attractive micro *Ypsolopha sequella* (Clerck), Alder Moth *Acronicta alni* (L.), Copper Underwing *Amphipyra pyramidea* (L.), Oak-tree Pug *Eupithecia dodoneata* (Guenée), Pale Pinion *Lithophane hepatica* (Clerck), Buff Footman *Eilema depressa* (Esper) and perhaps Lesser Treble-bar *Aplocera plagiata* (L.) although this species may have been previously overlooked. To this list must be added the most recent find.

On 13 July 2013, David Bryant caught three Southern Wainscot *Mythimna straminea* (Tr.) at Kennet Pans on the estuary of the River Forth. This species is also on the move. It has recently expanded its range in northern England, but the only other Scottish records come from the Solway Firth where it was probably first recorded in 1996 and has since been caught at multiple sites along the northern shore.

The extent and speed of the spread of Red-necked Footman, Slender Brindle, Pale Pinion and Buff Footman was dramatic and has been documented (Knowler, J. T. and Mitchell, J., 2004, *The Glasgow Naturalist*, **24**(2): 142-143; Knowler, J. T., 2005, *The Glasgow Naturalist*, **24**(3): 64; Leverton, R. and Palmer, S., 2009, *Entomologists Rec. J. Var* **121**: 129-133; Knowler, J. T., 2011, *Entomologists Rec. J. Var.* **123**: 220-221). Clearly the Southern Wainscot is also spreading rapidly and the Beautiful Snout appears to have arrived in central Scotland without having been recorded in southern Scotland.

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Devon Carpet *Lampropteryx otregiata* (Metcalfe) (Lep.: Geometridae) new to Scotland

On 27 August 2013, a wildlife recording day was organised by the local records centre for Dumfries & Galloway, with a Robinson pattern MV trap and two Heath actinic traps set the previous night at Glassoch, Wigtownshire (VC 74). On the opening of the Robinson trap, an usual geometrid was found and reference to Waring, Townsend & Lewington (2003. *Field Guide to the Moths of Great Britain and Ireland.* British Wildlife Publishing) suggested Devon Carpet *Lampropteryx otregiata*. Of course, the

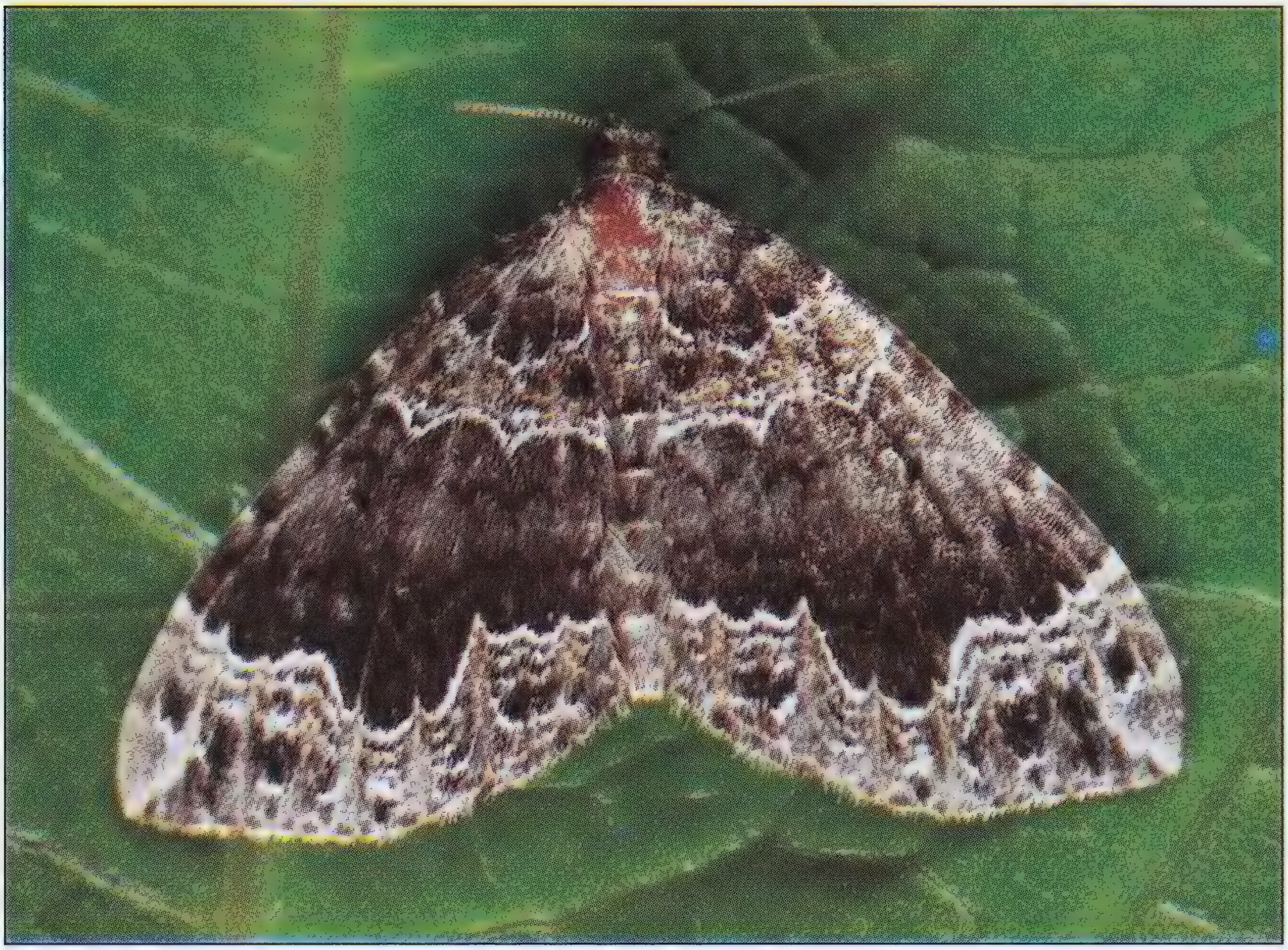

Plate 1. Devon Carpet *Lampropteryx otregiata* (Metcalfe), Glassoch, Wigtownshire, 26.viii.2013, K. Naylor.

party of nine people were aware that this would be a new species for the region; apart from a few scattered records in Lancashire all of the British records lie in England and Wales south of a line between the Mersey and The Wash, with a single locality on the Isle of Man (see Hill, *et al*, 2010. *Provisional atlas of the UK's larger moths*. Butterfly Conservation, Dorset).

Upon opening the two Heath traps a further four examples were found. Specimens were retained and later a photograph taken and e-mailed to Roy Leverton, who is the keeper of the Scottish macro-moth list; he confirmed it as the first Scottish record. An earlier record from Arran has been dismissed; he probably a misidentification. One of the specimens will be donated to the National Museums of Scotland.

The recording day, organised as part of the local wildlife site program, confirmed the presence of the moth's foodplant Marsh Bedstraw *Galium palustre* in the ditches around the site, which comprises a mosaic of mire, wood pasture, ancient woodland and unimproved/semi-improved grassland. The foodplant is quite widely distributed in Dumfries and Galloway and there is potential for this species to occur at other sites in the region.

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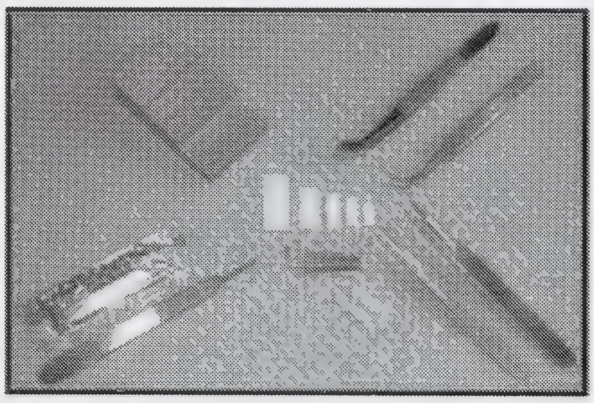

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Printed in England by
Cravitz Printing Company Limited, 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277 224610

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E mologist's Record

QL
461
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ENT

and Journal of Variation

olume 125 • Part 5 September/October 2013

Edited by C. W. Plant

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A publication of The Amateur Entomologists' Society

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THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

World List abbreviation: *Entomologist's Rec. J. Var.*

http://www.entrecord.com

Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

Annual subscription for individual subscribers for 2013 is £25.
For institutional and overseas rates please visit the website at www.entrecord.com

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The Entomologist's record is now printed in full colour, enabling us to accept a wider range of illustrative and interpretative material. This development has been made possible by a generous bequest by the late Andy Callow.

Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

Rearing Flame Brocade *Trigonophora flammea* (Esp.) (Lep.: Noctuidae)

In 1964 I moved to Sussex, eager to see the exciting southern moths that were absent from my previous home county of Lancashire. My new patch was the chalk downland around Brighton and Lewes. It encompassed several former sites for Flame Brocade *Trigonophora flammea*, including the famous Ranscombe Wood. Each autumn I worked the overripe blackberries and the ivy blossom in various brakes and shelterbelts, hoping to rediscover this splendid moth, but predictably without success. By then it had probably been extinct for sixty years or so (Pratt, C. R., 2011. *A Complete History of the Butterflies and Moths of Sussex*, vol. 3. Privately published).

In the early years of the present century, there were signs that Flame Brocade was beginning to recolonise Sussex. By 2011 there was strong evidence that it was well-established on the coast at Beachy Head. Alas, its reappearance had come too late for me, now based 500 miles away in Banffshire. However, thanks to the generosity of Colin Hart, in October 2012 I received five eggs laid by females caught at Beachy Head, kindly passed on by Reg Fry. If I couldn't get to see Flame Brocade in the wild, rearing it would be the next best thing.

According to Porter (1997. *The Colour Identification Guide to Caterpillars of the British Isles*. Viking), rearing Flame Brocade can be a very hit and miss affair, with some batches dying from unknown causes. With only five eggs to start with, there was little margin for error. Meticulous care would be needed, not to mention luck.

The eggs had been laid on or about 19 October 2012, singly or in pairs on a buttercup leaf, which was now brown and withered. It was placed in a small container made of clear plastic, with a fresh leaf added to maintain some humidity without encouraging mould. By 10 November the eggs had turned violet grey, as if about to hatch, but they did not do so. This was worrying, particularly when Reg Fry e-mailed me on 18 November to say that only one of his eggs had hatched successfully, the other larvae dying in the act, apparently from dehydration. Mine seemed in danger of a similar fate. Yet wetting the long-dead buttercup leaf would risk the rapid growth of mould, which could also prove fatal. Instead, working under a low-powered microscope, I deposited a tiny bead of water on the top of each egg, using the head of an entomological pin. Fortunately this did the trick: three eggs hatched within a couple of hours and remaining two had hatched by the following day. All the neonates seemed strong and viable. Hereafter they were kept indoors, but in a fairly cool room.

In their first instar, the larvae were offered a mixture of Creeping Buttercup *Ranunculus repens*, chickweed *Stellaria* spp. and fine grasses, including *Poa annua* from the garden. Grass was much preferred, though chickweed was also nibbled; the buttercup was ignored. Larvae attained a length of 5-6 mm in their first instar.

By 1 December, two had moulted to second instar, and the rest soon followed. They were now grass-green with fine white dorsal and subdorsal lines and a narrow white spiracular line. In this instar, chickweed was preferred to grass, and buttercup was nibbled occasionally. Larvae attained a length of 12-13 mm in their second instar.

By 16 December, two were newly into their third instar and all five had reached this stage by 20 December. Colour and pattern were as in the second instar. Grasses were no longer being eaten and chickweed was now the preferred food. By the end of their third instar the larvae had attained a length of 20mm.

Fourth instar was reached by 25 December (Plate 1). Larvae were now a deeper green, with yellowish intersegmental divisions, with fine white dorsal, subdorsal and spiracular lines as before. The trapezoidal dots were white. The head was a slightly paler green, unmarked. Maximum length of the fourth instar was 28 mm and larvae were quite plump. More buttercup was now being eaten as well as the chickweed. One larva was sent to Reg Fry to replenish his loss.

By 7 January 2013, the four remaining larvae had moulted to their fifth and final instar (Plates 2 and 3). Immediately after casting their skin, they were a mossy green with only faint traces of markings. Over the next two or three days they darkened to a deep green, with the markings becoming more distinct, then gradually changed to an earth-brown. The fine pale subdorsal lines were edged on either side with dark brown, enclosing a dorsal pattern of darker diamonds linked by the pale, dark-edged dorsal line. The trapezoidal dots and the spiracles were white, the latter linked by a fine white line. The head was reddish-brown marbled with darker brown. Ventrally some larvae retained a greenish tinge, others being pale brown.

This major change in appearance was accompanied by a change in behaviour. In their previous green instars, the larvae had rested upon the foodplant by day and were very hard to spot. In their brown final instar they descended to the floor of the container, hiding beneath the foodplant or under the kitchen towel lining of the container by day and feeding only at night. Presumably in the wild they descend to ground level and hide in the leaf litter, where they would be well-camouflaged. Buttercup was now the sole foodplant and was eaten voraciously, chickweed being ignored. Fresh, vigorous young leaves were much preferred. Because the literature such as Porter (*loc. cit.*) recommends a more varied diet in the final instar, attempts were made to provide this despite the limited choice available in midwinter. Heathers, marjoram, thyme, foxglove, flower buds of gorse and sprigs of broom were all offered, but no feeding was observed on any of these. Privet *Ligustrum vulgare*, accepted by Reg Fry's larva, was unavailable in Banffshire.

This dependence on buttercup caused problems when the weather turned increasingly cold in the second week of January, with prolonged hard frosts down to -6°C and patchy snow cover. At first, buttercup growing against the walls of outbuildings, or protected by the snow, was still in usable condition, but as the cold spell continued even these plants became blackened and shrivelled. Eventually I was forced to scrabble in deep roadside ditches, seeking individual buttercup leaves not yet seared by the frost. Just when the quest for foodplant was becoming impossible, the last larva went down.

In their final instar the larvae grew rapidly in size, attaining a maximum length of 48-50 mm with a considerable girth. They were not particularly attractive at this stage. Having reached full growth they did not enter the soil immediately but rested quietly for two days beneath the foodplant, gradually shrinking from 48 mm long to about

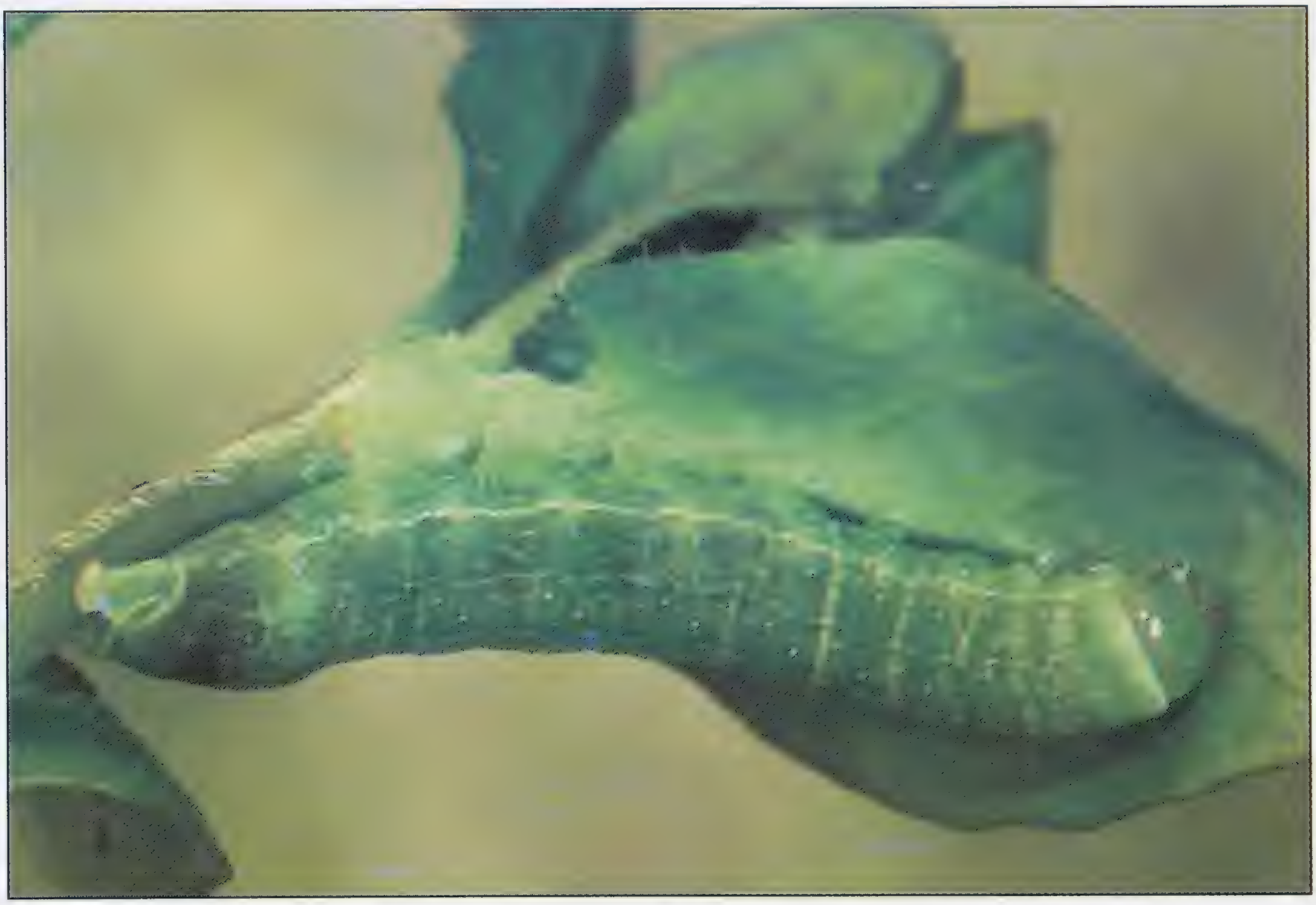

Plate 1. *Trigonophora flammea* (Esper) penultimate instar larva, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

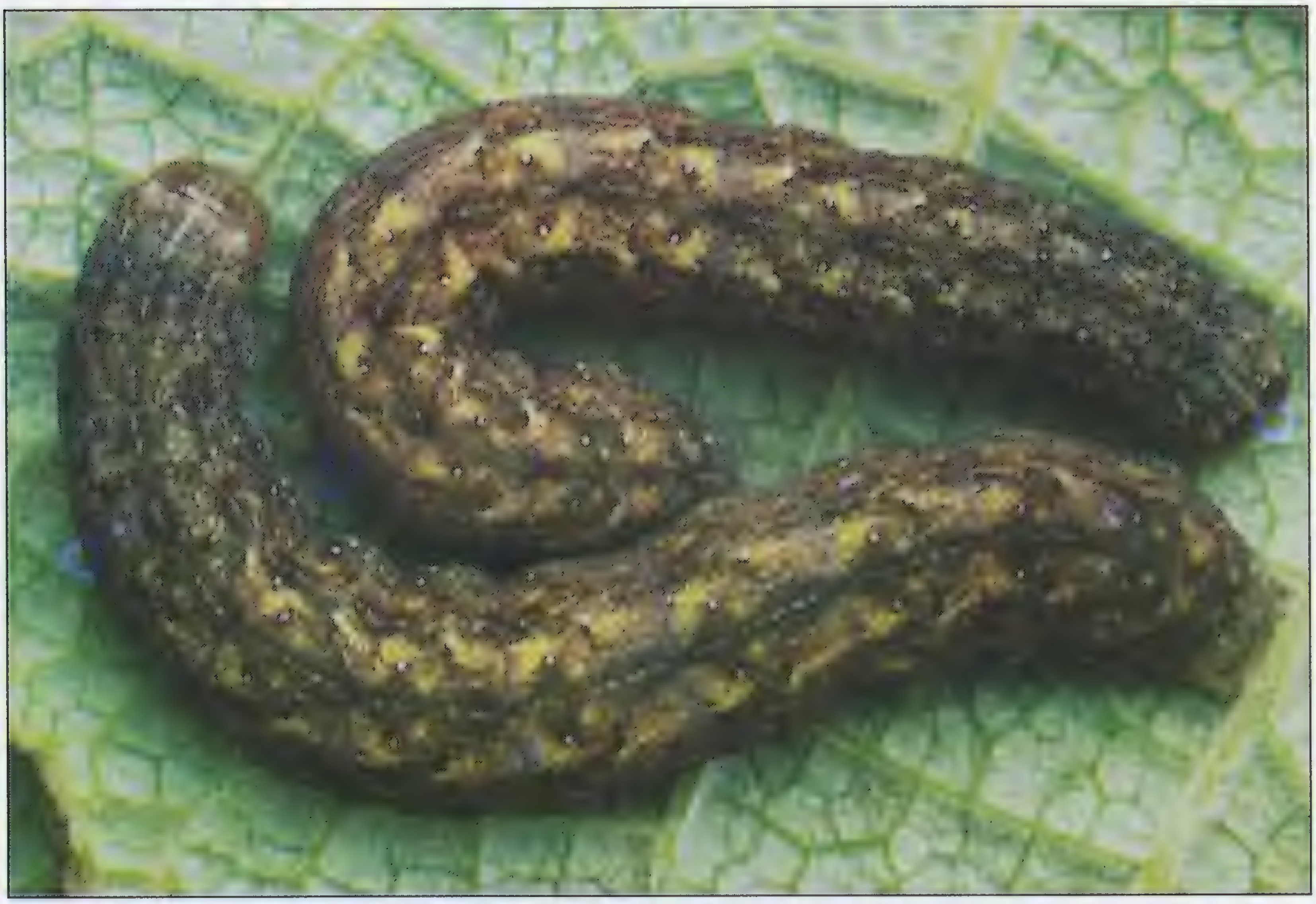

Plate 2. *Trigonophora flammea* (Esper) final instar larvae, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

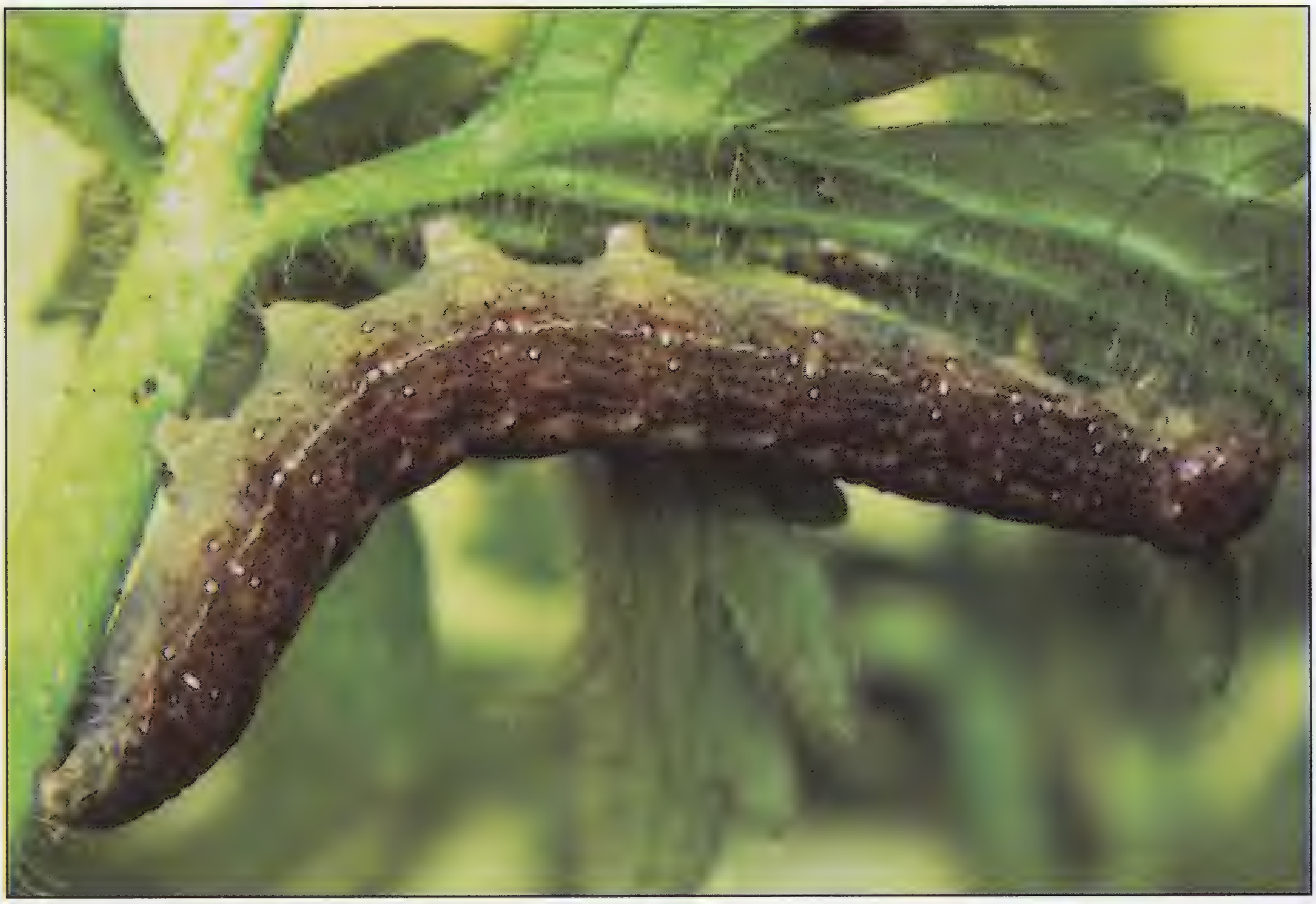

Plate 3. *Trigonophora flammea* (Esper) full-grown larva, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

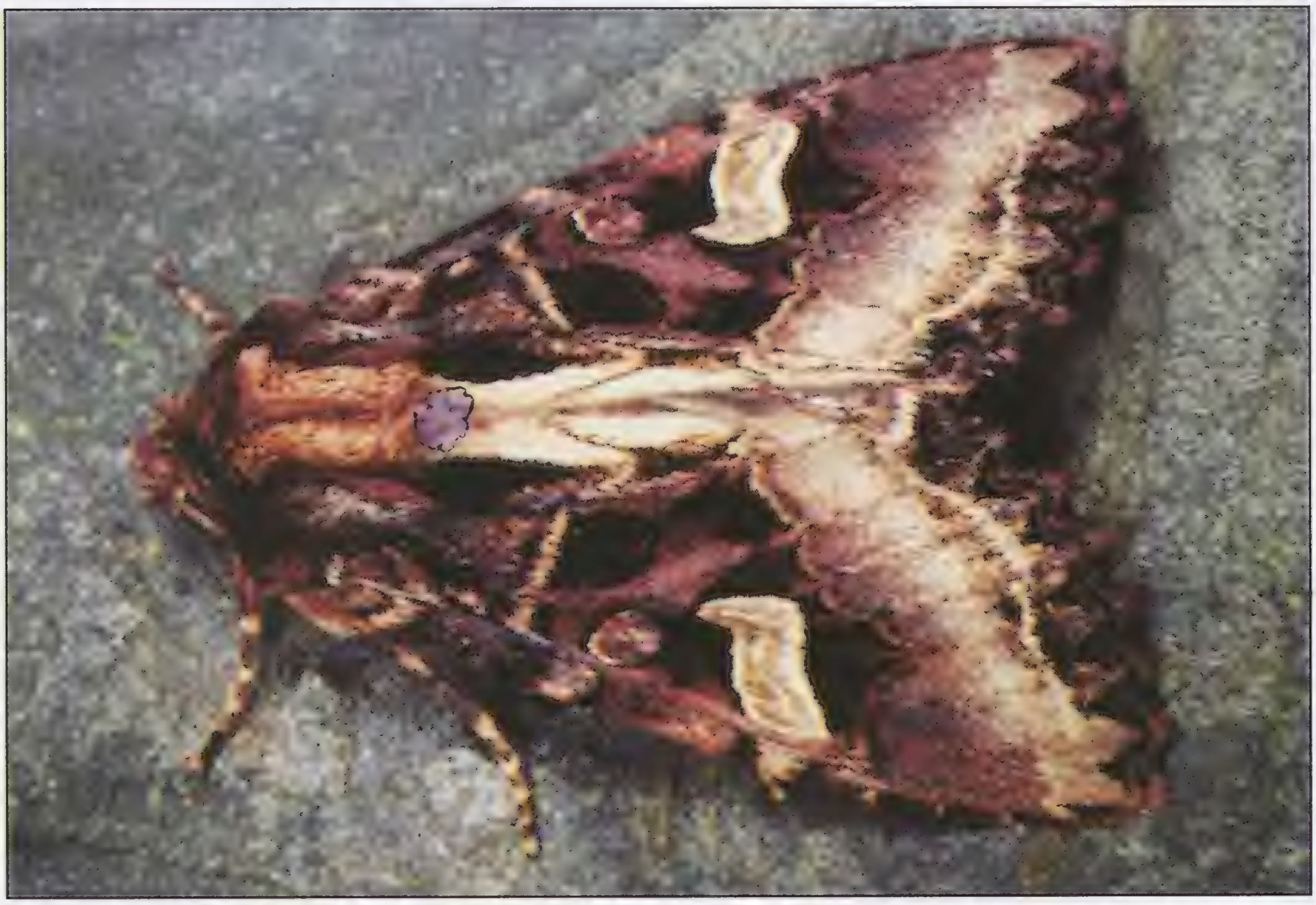

Plate 4. *Trigonophora flammea* (Esper), adult female, ex female, Beachy Head, Sussex, October 2012 (Roy Leverton).

35 m. They then went down, without the usual perambulation beforehand, between 18-21 January.

The larvae constructed moderately strong cocoons of soil and silk 40-50 mm below the surface. Unlike in many autumn moths, there seems to be no prepupal diapause inside the cocoon, as the larva sent to Reg Fry had pupated when examined 10 days after going down. My cocoons were left *in situ* beneath the soil and kept in an unheated room. Surprisingly, the first adult emerged on 9 May 2013 and others followed on 19 May (Reg Fry), 20 May, 23 May and 29 May. Emergence took place in the evening or overnight. Needless to say, the freshly emerged moths were exquisite.

It is surprising that the adults emerged four to five months earlier than the normal flight time in the wild. I purposely made no attempt to force the larvae, in the belief that a wider range of foodplants would be needed for the final instar in spring. Although necessarily reared indoors because the winter was exceptionally severe, the larvae were kept fairly cool. Yet still they raced ahead, completing their growth in only two months, then spending about four months in the pupal stage. Calculating backwards from the normal emergence period suggests that in the wild the larvae would reach full growth in April or May. This agrees with the timing given in Newman (1869. *The Illustrated Natural History of British Moths*. London) and in Tutt (1905. *Practical Hints for the Field Lepidopterist* III. Stock, London).

However, there is debate about whether wild larvae were ever discovered in Sussex during the 50 years or more that the moth was established there from 1855 onwards. Apparently there is no unequivocal account of larvae ever being found (Pratt, *loc. cit.*). Because of the interest in this species, and the considerable financial value of good specimens at that time, wild larvae would surely have been sought by professional collectors and dealers in the nineteenth century. Given the fieldwork skills and diligence of the Victorian collectors, together with the frequency of the moth in the early years of residency at least, it is hard to believe that none of these attempts was successful. On the other hand, those hoping to profit would have every incentive not to publicise such finds, or even to spread disinformation, with the aim of cornering the market.

If Flame Brocade maintains its latest Sussex colonies, searching for larva in early spring might help to resolve this issue. The green early instars, resting on the foodplant by day, should be amenable to sweeping from low herbage. The brown final instar should be sought by torchlight after dark in April, perhaps climbing to feed on shrubs such as privet. Then we might have a better idea of whether the old observers were holding back information, either for pecuniary advantage or out of a genuine concern for the moth.

I am grateful to Colin Hart for providing the eggs and exchanging rearing information, also to Reg Fry for passing on the eggs to me. Further images from this rearing, including egg and pupa, are available on *www.ukleps.org*.

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Mating attempt between Dusky Sallow *Eremobia ochroleuca* (D.&S.) (Noctuidae) and a skipper butterfly (Hesperiidae)

At 16.30 hours on 3 August 2013 I was at Warham Camp, a small area of chalk pasture in North Norfolk, watching the many hundreds of Chalk-hill Blue butterflies *Polyommatus coridon* (Poda) on the wing and feeding. I noticed a Dusky Sallow moth *Eremobia ochroleuca* on a scabious flower; on closer inspection I saw that this moth was joined to a butterfly (Plate 1). They moved around on the flower head for over a minute enabling me to take a number of photographs. Examination of the images shows that the butterfly was either a Small Skipper *Thymelicus sylvestris* (Poda) or and Essex Skipper *T. lineola* (Ochs.).

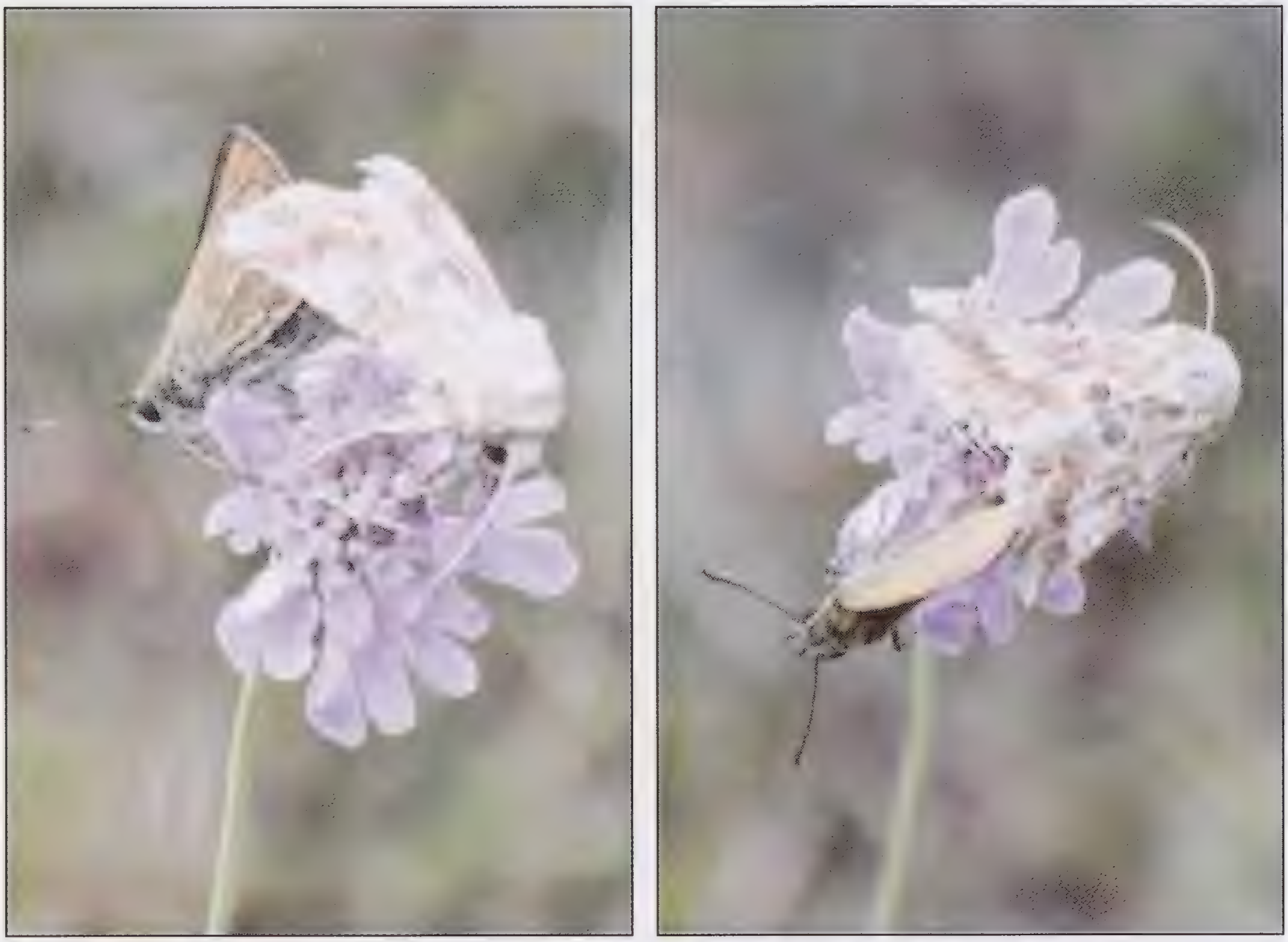

Plate 1. *Thymelicus sp.* (Hesperiidae) and *Eremobia ochroleuca* (Noctuidae) *in copula*, Norfolk 2013.

Although pairings between moths of different species are not entirely unknown, brief research on the Internet suggests that inter-generic couplings between moths and butterflies are of very rare occurrence and may not, previously, have been photographed.

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Prays fraxinella (Bjerkander) (Lep.: Praydidae) is not monophagous on Ash

On 16 June 2013, I was searching for larvae on a large Wild Privet bush *Ligustrum vulgare* at Rougemont Carr near Pool in West Yorkshire; I came across two pupae in typical loose cocoons on adjacent branches of the privet. In both cases there was evidence of the leaves having been eaten. A normal form *Prays fraxinella* emerged on 21 June and one of the melanistic form *rustica* on the next day. This was interesting in its own right as it is reasonable to assume they were laid by the same female.

Plate 1. Pupa of *Prays fraxinella* (Bjerkander) on *Ligustrum vulgare*, Rougemont Carr, West Yorkshire, 16 June 2013, P. Millard.

Enquiries made of literature and the County Moth Recorder, C. H. Fletcher, indicate that *P. fraxinella* is thought to be monophagous to Ash *Fraxinus excelsior*. This is attracting much publicity recently because of the threat to species entirely dependent on Ash, though other species largely dependent on Ash will often also take privet as a secondary foodplant. Alan Stubbs (2013. Ash and its host species. *British Wildlife* **24**(4): 251-253), lists four species of moth presumed to be monophagous on Ash: *Zelleria hepariella*, *Euzophera pinguis*, *Pammene suspectana* and *Prays fraxinella*. He also lists as oligophagous, with Privet or Lilac alternatives, *Caloptilia syringella*, *C. cucullipennella* and *Pseudargyrotoza conwagana*. It would appear that *Prays fraxinella* is also oligophagous.

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Zygaena lonicerae (Schev.) ssp. *latomarginata* Tutt, Narrow-bordered Five-spot Burnet, f. *citrina* Speyer (Lep.: Zygaenidae) in Shropshire: A rare morph found in Church Stretton

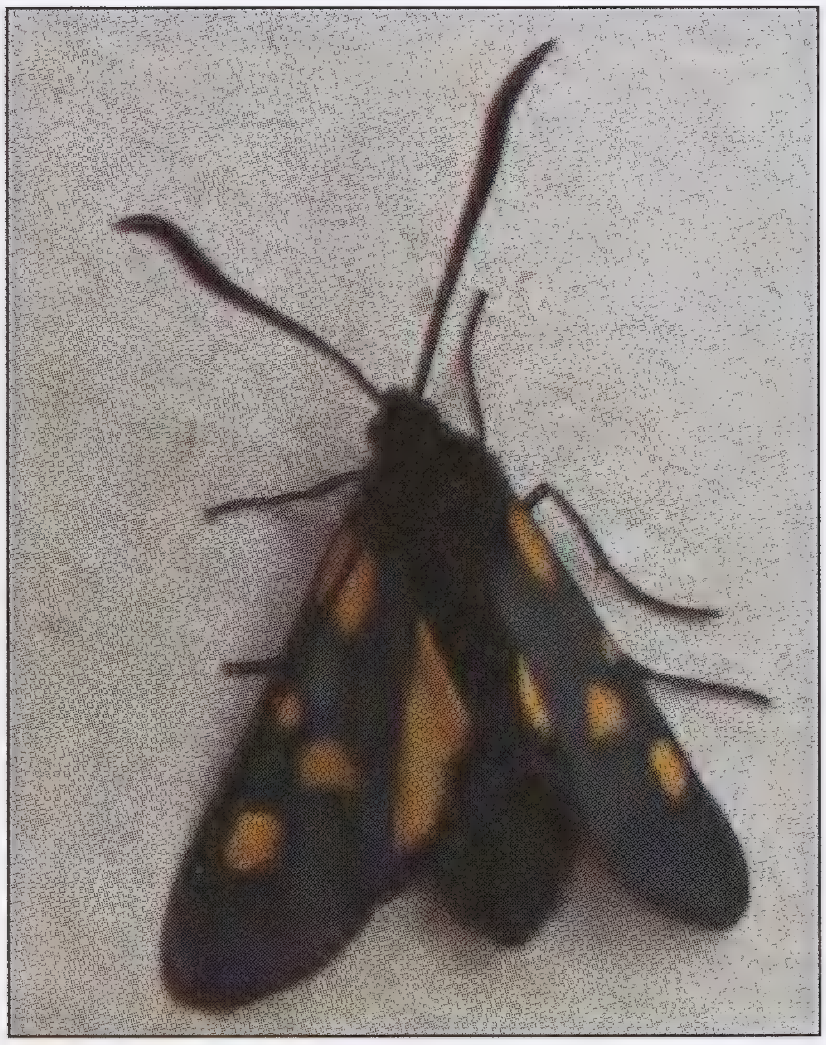

Plate 1. *Zygaena lonicerae* (Schev.) ssp. *latomarginata* Tutt, Narrow-bordered Five-spot Burnet, f. *citrina* Speyer, Church Stretton, Shropshire, 11 July 2013. Photograph © G. Wenman

On 8 June 2013, I visited a wetland field which is only a few hundred metres from my home in Church Stretton (Shropshire, VC 40), looking for butterflies and day flying moths. In one small area I found several larvae of "burnet" moths, apparently feeding on Meadowsweet *Filipendula ulmaria.* In total in the field I did not see more than 30 larvae and did not notice any pupal cases attached to grass stems. I took photographs of two larvae as they were both different in appearance and identified them both as *Zygaena filipendulae* (L.) Six-spot Burnet. A few days later these two larvae pupated and on 4 July a *Z. filipendulae* emerged. The second one has failed to emerge.

It is interesting to note that although the name of the moth and the plant it was found on are shared, *Filipendula* is not listed as a food-plant for the larvae of this moth, which are traditionally associated with *Lotus*.

On 11 July 2013, I decided to revisit the site. Considering that I had not seen many larvae or pupal cases on the previous visit, I was astonished to find that there were thousands of burnet moths in the field. Every bramble flower head was covered in moths. These were all *Zygaena lonicerae latomarginata* Narrow-bordered Five-spot Burnet. There were quite a number of butterflies, crambids and tortrix moths flying and several were netted for identification. I was however surprised to see a yellow form of a Burnet flying towards me; this was duly potted and photographed (Plate 1). A quick check in Waring & Townsend (2003. *Field Guide to the Moths of Great Britain and Ireland.* British Wildlife Publishing), revealed that my specimen was the rare *f. citrina* (Plate 3), although the authors fail to mention this form in the descriptive text. The identification has been confirmed from the photograph by Dr W. G. Tremewan.

There are no records of this morph on the National Moth Recording database (Les Hill, personal communication), although there is, it seems, no method for recording such forms (except perhaps in the free-text "Comments" column in MapMate).

In the comprehensive discussion of the Zygaenidae by Tremewan (1985. in *The Moths and Butterflies of Great Britain and Ireland*, Vol 2, Harley Books), there is only a mention of a "yellow form" and it is said that this "has occurred regularly on the Cotswold Hills, Gloucestershire". Comprehensive papers concerning aberrations of the British species (with coloured illustrations) have been published by Tremewan (1961. The aberrations of the British species of the genus *Zygaena* Fabricius (Lepidoptera: Zygaenidae). *Coridon* (A) **1**: 1-10, Plates C1-C3) and Reiss & Tremewan (1967. A systematic catalogue of the genus *Zygaena* Fabricius (Lepidoptera: Zygaenidae). *Series ent.* **2**: xvi, 329pp.).

My thanks go to Martin Honey of the Natural History Museum who confirms that the Museum possesses a long series from the "famous" Cotswold's site, collected by Richardson and two specimens from Painswick in Gloucestershire (A. M. Morley) and a specimen from Filey in Yorkshire dated 1893. I am also grateful to W. G. Tremewan for confirming the identification from my photograph.

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Epiphyas postvittana (Walker) (Lep.: Tortricidae) reaches West Ross

During the Scottish Entomologists' Gathering, a mercury vapour light trap was run on the night of 29 June 2013 in a garden at Camusnagaul, O. S. grid reference NH 064893, on the southern shore of Little Loch Broom in West Ross, VC 105. The weather was mild, although a blustery wind from the north-west was strong enough to threaten the safety of the trap. Disappointingly few moths were caught, but amongst them was a fresh male *Epiphyas postvittana*. Later that morning its identity was agreed by John Langmaid, Mark Young and Stephen Palmer, who were also attending the gathering. The county moth recorder, Brian Neath, has since confirmed it as the first for West Ross.

This appears to be the most northerly record yet of *E. postvittana*, an adventive species that has been steadily extending its range in Britain since it was discovered in Cornwall in 1936. The first Scottish record came only in 2002, when one was found in Edinburgh by Keith Bland. Until now, the most northerly sighting was at Kingussie in East Inverness-shire on 4 June 2006, so this latest record is over 100 kms distant and almost 90km further north. Transportation of the early stages via plant nurseries is of course a possibility. The garden in question contains a wide variety of native and exotic shrubs, many of which are known foodplants of *E. postvittana*.

Ironically, the trap also held one *Blastobasis lacticolella* Rebel. It seemed incongruous to catch two adventive colonists, originating from Australia and Madeira respectively, in such a wild and remote Scottish setting.

We thank Dundonnell Estate for hosting the Scottish Entomologists' Gathering and Mrs Ross for permission to run the trap in her garden. Mark Young kindly researched the earlier records.

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MYRMELEON FORMICARIUS (L., 1767) (NEUR.: MYRMELEONTIDAE): AN ANT-LION NEW TO BRITAIN

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Abstract

The ant-lion *Myrmeleon formicarius* (Linnaeus, 1767) is recorded new to Britain from the Isle of Wight in August 2013. The possible origin of the insect is discussed.

Keywords: Neuroptera, Myrmeleontidae, *Myrmeleon formicarius*.

Introduction

In a suburban area of Freshwater, at the western end of the Isle of Wight about 1.25 km inland from the south coast, DC runs a 125 watt MV Robinson-pattern moth trap regularly in his garden. During the night of Friday 23 August 2013, there had been a light north-west breeze throughout and amongst the 108 species recorded in the trap the next morning were several potential immigrants, such as 13 *Plutella xylostella (L.),* 10 *Udea ferrugalis* (Hb.), a single *Agrotis ipsilon* (Hufn.) (Dark Sword-grass) and 42 *Autographa gamma* (L.) (Silver Y). *Evergestis limbata* (L.) and *Udea fulvalis* (Hb.) were also recorded, but these are resident in the area. In the morning, there were many moths outside the trap including several Jersey Tiger *Euplagia quadripunctaria* (Poda) which is now abundant in many places along the south coast of the island. Upon the arrival of TN and LF to stay for the weekend, we started to empty the trap of its contents. Near the bottom of the trap TN noticed what he thought was an ant-lion settled on one of the trays and so it was potted.

A hasty picture taken on a mobile phone was sent straight away to Paul Brock who in turn e-mailed it to CWP; he responded with the information that this was a species of *Myrmeleon* (L.) and that on the basis of the wing venation and patterning could only be either *M. formicarius* (L.) or *M. bore* (Tjeder). Subsequent examination of additional photographs showing the colour pattern on the pronotum, together with a knowledge of the wing length, generated the response that (in absence of the actual specimen) in his opinion this was certainly *M. formicarius*.

In view of the extreme surprise that this species could migrate to Britain, a selection of images were e-mailed to colleagues in Europe who are familiar with this species

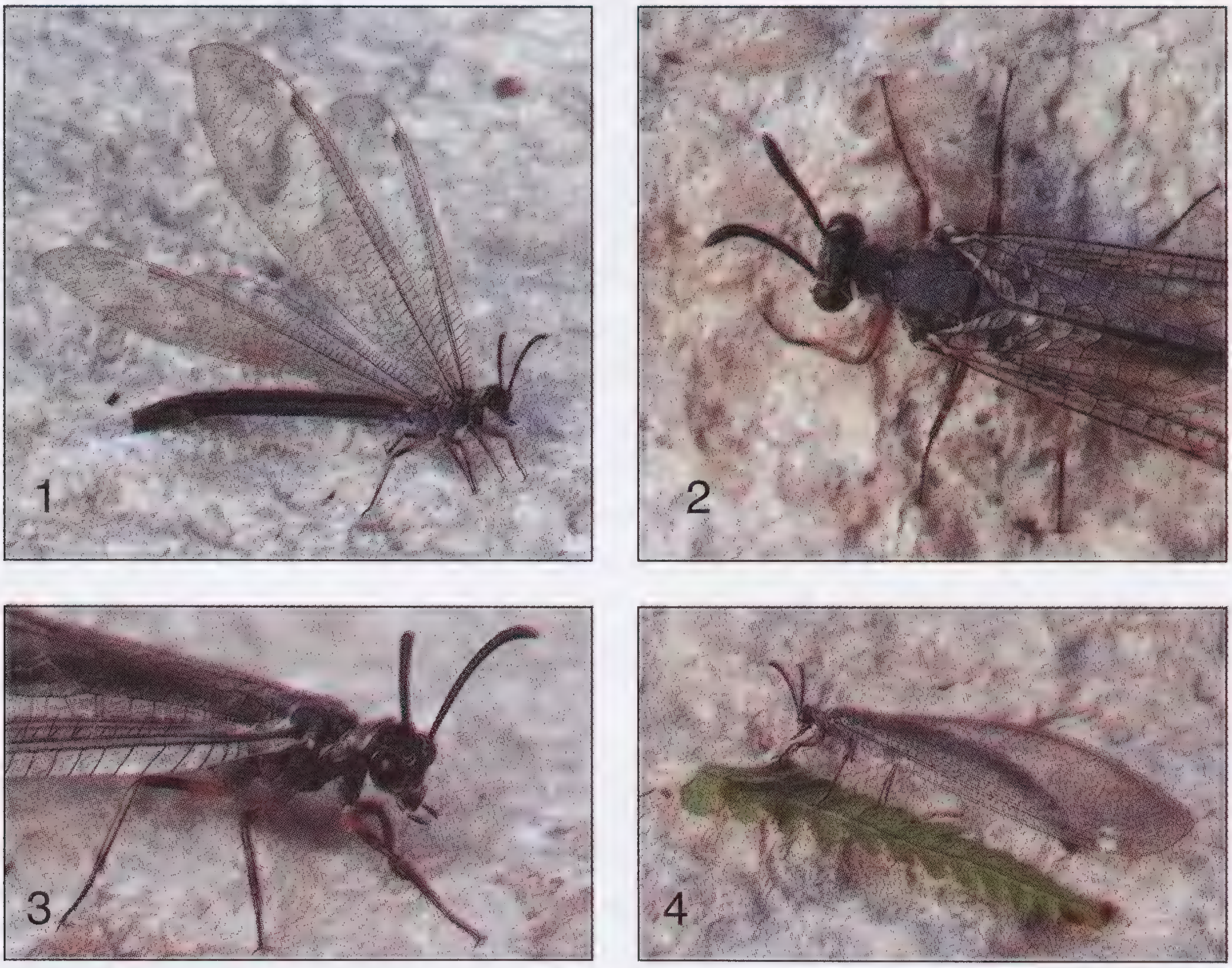

Plate 1. *Myrmeleon formicarius* (L.), Freshwater, Isle of Wight, 23.viii.2013, leg. Dave Cooke, in coll. James Halsey. 1. Showing the venation on both fore and hind wings and the slightly falcate wing tips; 2. Entirely dark dorsal surface of pronotum helps to distinguish this species from *M. bore*; 3. Oblique lateral view of head and thorax showing colouration of legs and other features; 4. In a natural repose, with a fern frond for scale (wing length = 34 mm). All photographs Dave Cooke.

on a regular basis. The responses received from Dr Ferenc Szentkirály (Hungary), Dr Agostino Letardi (Italy), Dr Patrice Leraut (France), Dr Dušan Devetek (Slovenia) and Dr Levente Ábrahám (Hungary) supported the identification as *M. formicarius*, although emphasised the need to distinguish carefully from *M. bore.*

Recognition

According to Aspöck et al (1980) the dorsal pattern of the pronotum is characteristic. These authors also discriminate between the two within their key on the basis of fore wing length, with *M. formicarius* having a wing of 35 – 40 mm and *M. bore* smaller at 25-33 mm. The cynical will be unsurprised that the Isle of Wight specimen measures 34 mm. However, Feri Szentkirály also commented that "*The wing length of antlions may be variable, as I found in my larger adult material collected by light trapping, consequently it is not a good key for identification*".

We are extremely grateful to Dr Levente Ábrahám for supplying photographs of set specimens of males of both *M. formicarius* and *M. bore* together with the following notes:

> *M. formicarius* is larger species than *M. bore*, the length of forewing usually is over 30 mm while *M. bore* has less then 30 mm. The shape of forewing in the [Isle of Wight] picture is more similar to *M. bore* than that of *M. formicarius*. Forewing is narrower than that of *M. formicarius*. … The male of *M. bore* has a *pilula axillaris* (Eltringham organ) in the base of hindwing; *M. formicarius* has not got such an organ. The ectoproct of *M. bore* has a bent, tooth-like processus ventrally while that of *M. formicarius* is only an oval plate. In both sexes the dorsal segments of the abdomen of *M. bore* have a narrow yellowish edge caudally while those of *M. formicarius* do not. *M. formicarius* usually flies from end of May to early July, *M. bore* flies from the middle part of summer, mainly in the second part of July and in August.

Overall, we are in no doubt that this captured specimen refers to *M. formicarius*.

An erroneous earlier record

An earlier published report of *Myrmeleon formicarius* in Britain has been shown to be a misidentification of *Euroleon nostras* (Geoff. in Fourc.), which is resident on the East Suffolk coast (Plant, 1998a; 1998b, 1999, from which the following three paragraphs are quoted).

> "The earliest reference to British ant-lions (Neuroptera: Myrmeleontidae) in the literature appears to be that of Barbut (1781), who recognised "*Myrmeleon formicarum*" as a British species but gave no details. Stephens (1829), also included "*Myrmeleon formicarum*" as British, though he had never himself seen a British specimen and had presumably copied from Barbut's earlier work. Later (Stephens, 1835) he reconsidered the matter and concluded that the species was erroneously introduced as British by Barbut. Hagen (1858), stated that it was "… almost certain that at least two species of *Myrmeleon* will be found in Britain, probably more", but provided no evidence to support that statement. McLachlan (1868) considered that "… we have no native member of the handsome Myrmeleonidae in Britain".
>
> The first confirmed British record of an ant-lion came on 5 September 1931 at Gorleston, when a single male was taken "… clinging to a paling about thirty inches from the ground, and in an apparently torpid condition" by C. G. Doughty (Doughty, 1931; Killington, 1932). The insect was identified as *Myrmeleon formicarius* by Claude Morley who, in an editorial footnote to Doughty (*op. cit.*) stated that the area had been practically unworked for over a hundred years and did not rule out the possibility of the species being native. Recent investigations by Howard Mendel at Ipswich Museum turned up Doughty's specimen in that institution (Morley Collection, number R.1953-22) and this proved to be *Euroleon nostras* rather than *Myrmeleon formicarius*.

> It is hard to comprehend the original misidentification of a species with darkly spotted wings with one whose wings are hyaline; the names *formicarum* and *formicarius* do not appear in the synonymy of *E. nostras* listed in Aspöck et al., (1980) though Mendel (1996), in considering this particular problem disagrees (but without references). Certainly, Barbut's (*op. cit.*) description of *Myrmeleon formicarum* as having wings "… diaphanous, adorned with a network of black fibres, charged with several blackish-brown spots, rather large, especially towards their outer edge" can surely only be a description of *Euroleon nostras*. The dark wing markings are clearly shown in his Plates 12 and 22. The matter is further discussed by Mendel (*op. cit.*) who concludes that early references are best treated as unreliable and in any case should probably be referred to *Euroleon nostras*."

Potential origins

This current capture of *Myrmeleon formicarius* represents an addition to the British fauna.

In continental Europe, *M. formicarius* is widely distributed from Spain in the west to Turkey (and beyond) in the east and from the southern tip of Italy to the southern half of the Scandinavian Peninsula in the north (Aspöck *et al*, 1980 and various subsequent individual papers). It is local, but not uncommon across this entire area. However, its presence in Britain is something of a surprise. It was presumably prevented from colonisation by the last "ice age" and it is not considered to be a migratory species. It is widely established in the "cold" areas of the southern half of Norway and Sweden and also in Finland extending, in terms of latitude, to a level just north of the Shetland Islands; range expansion as a consequence of climate warming seems, therefore, an unlikely explanation. We are mindful of Morley's comments (Morley, 1932) in relation to the discovery of the (misidentified) ant-lion in Suffolk. This find was of such interest that a lengthy report appeared in a local newspaper in which Morley described the possibility of the insect having been "merely blown across the intervening seventy miles of sea" from the Continent as " … an extremely improbable contingency". With the benefit of hindsight, and the knowledge that his specimen was in fact *E. nostras*, we can see that he was quite correct. That said, the likelihood of *M. formicarius* being an overlooked resident on the Isle of Wight is very small; this specimen was surely an immigrant or a wanderer, depending upon one's personal interpretation. Unless it is breeding somewhere else on the south coast?

Acknowledgements

We are grateful to Paul Brock for his invaluable help. We are also especially grateful to Dr Ferenc Szentkirály (Budapest, Hungary), Dr Agostino Letardi (Rome, Italy), Dr Patrice Leraut (Paris, France), Dr Dušan Devetek (Maribor, Slovenia) and Dr Levente Ábrahám (Kaposvár, Hungary) for their help in confirming the identification.

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WANTED – *DIACHRYSIA STENOCHRYSIS*

In spite of recent claims, the presence of *Diachrysia stenochrysis* (Warren) in Britain remains unconfirmed. As a part of a collaboration between myself and Dr Bong-Kyu Byun at Hannam University, South Korea, an opportunity now presents itself for sequencing the DNA (mitochondrial CO1 gene) of a small number of candidate specimens. The results can then be compared with sequences already obtained from Korean *stenochrysis* material.

If you have a *good* candidate for *stenochrysis* I would be very keen to borrow the specimen(s). I would remove the middle pair of legs to send to Korea for analysis; the specimen(s) will be photographed and returned after the results are back. Alternatively, you can send me just the legs (in a clean, uncontaminated container) accompanied by a very high resolution digital photo of the insect, which must be accompanied by full data. Candidate specimens are those in which the two brassy bars on the forewing are joined to make an H-shape (= f. *juncta* Tutt; = f. *tutti* Kostrowicki), but the brassy-green cross-bar of the H must be a *minimum* of 3 mm wide. There is a time limit on this window of opportunity, so please contact me at once if you are able to provide a specimen.

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Rhigognostis incarnatella (Steudel) (Lep.: Yponomeutidae): A new Northumberland record

On 16 July 2013, while emptying my 125 watt Robinson pattern MV trap, I noted a *Rhigognostis* species settled on an egg box, but I failed to secure it in time. The following morning I was pleased to see, it or another specimen, in my trap which I quickly potted up and my initial suspicions were confirmed as to the identity, a pristine *Rhigognostis incarnatella*. This constitutes the first record for Northumberland.

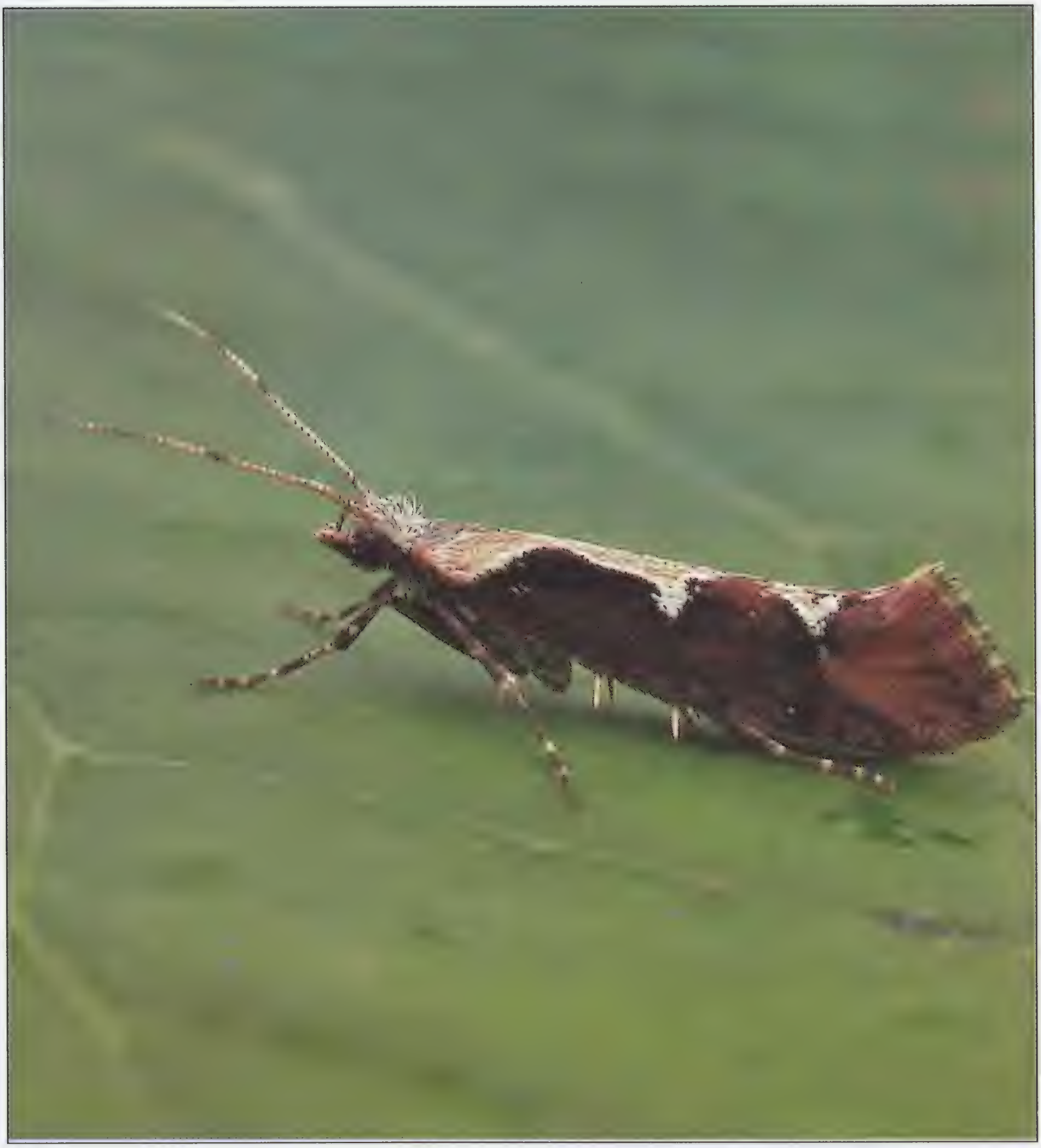

Plate 1. *Rhigognostis incarnatella* (Steudel), Tynemouth, 16 July 2013, T. J. Tams.

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An unusual food plant for larvae of the Cinnabar moth *Tyria jacobaeae* (L.) (Lep.: Arctiidae)

The Cinnabar moth *Tyria jacobaea* reaches its current limit in eastern Scotland at Sands of Forvie National Nature Reserve, Aberdeenshire. It recently spread north to Forvie, where its larvae have been found feeding on Ragwort *Senecio jacobaeae* since 2009. This is, of course, its usual and predominant larval foodplant and few enthusiasts will have seen the larvae feeding on anything else.

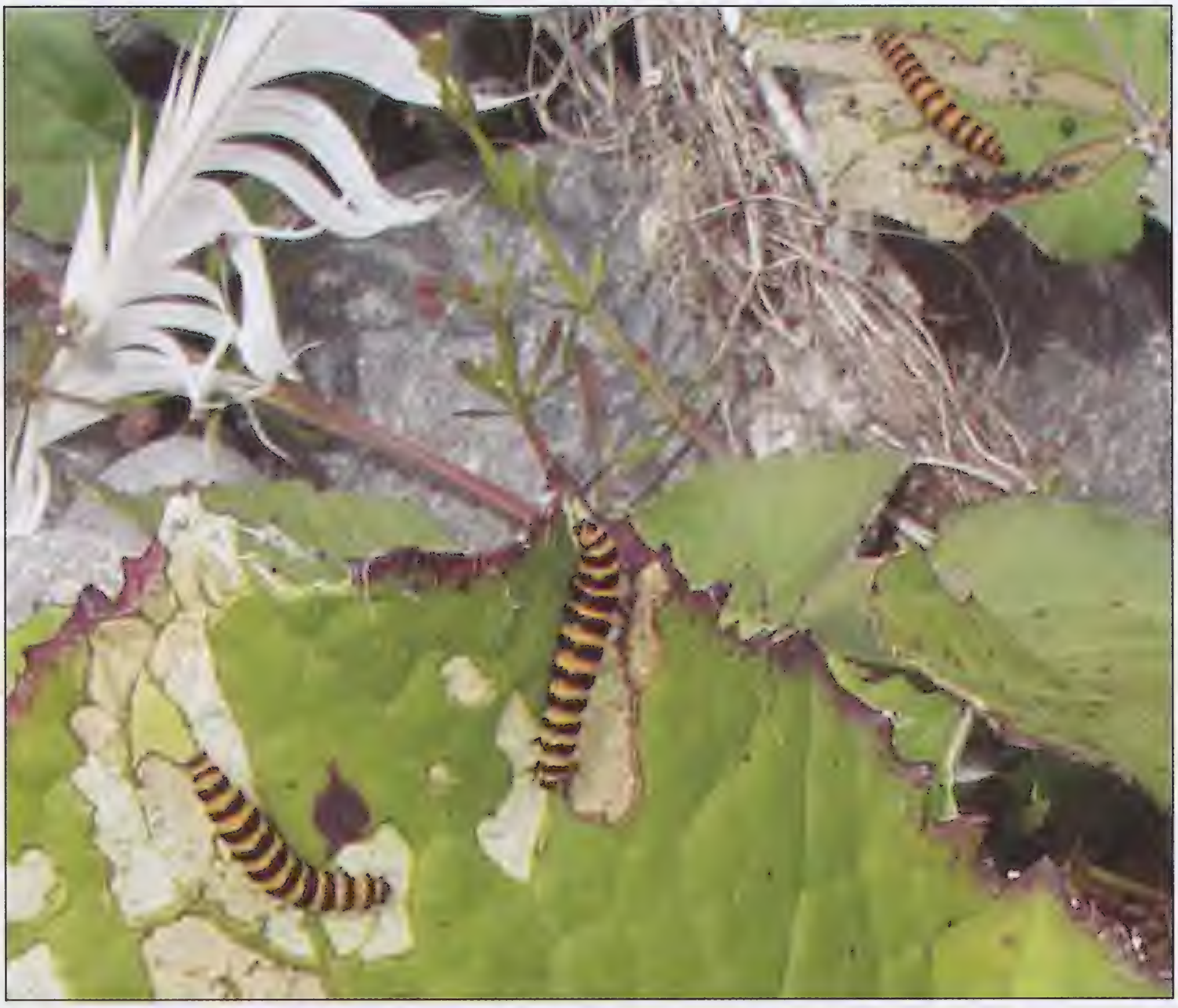

Plate 1. Larvae of *Tyria jacobaeae* feeding on *Tussilago farfara* Forvie, Aberdeenshire, 2013.

In 2013 Ragwort has been comparatively rare at Forvie and AD found larvae of the Cinnabar feeding on Coltsfoot *Tussilago farfara* (Plate 1). This foodplant is noted by Allan (1949. *Larval Foodplants*) and Porter (1997, *Colour Identification Guide to Caterpillars of the British Isles.* Viking), together with other Asteraceae, but its use at Forvie seems to deserve recording.

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CHILO PARTELLUS (SWINHOE, 1884) (LEP.: PYRALOIDEA, CRAMBIDAE) A STEM BORER ON CYPRUS

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Abstract

Chilo partellus is formally recorded on Cyprus, with records from 1997, 1999 and 2012.

Key words: Cyprus, Lepidoptera, Pyraloidea, Crambidae, *Chilo partellus*, distribution.

Introduction

During 2012, IB and KR spent two weeks moth-recording in Cyprus, between 14 and 27 April, based at the Vasilias Nikoklis Inn, Nikókleia, near Pafos. Trapping involved the use of a 6 watt Actinic Heath trap. The grounds of the hotel comprise a mix of olive and citrus grove, a small vegetable patch, and garden planting. The hotel sits in the Diárizos river valley at an altitude of about 70 m and approximately five km from the coast, south-east of Pafos.

Among 130 moths returned to the UK was a member of the Crambinae, which was retained as it recalled an unknown species photographed at the same site in 2011. IB initially thought it might be of the genus *Donacaula* Meyrick, 1890, or perhaps a species of *Calamatropha* Zeller, 1863. It was dissected by IB, but he could find no match for the genitalia amongst the illustrations in Slamka (2008) which covers both the Crambinae and Cyprus. He therefore contacted František Slamka, who kindly identified the moth as a female *Chilo partellus* (Swinhoe, 1884), which has been given the preferred common name of Spotted stem borer (CABI – Invasive Species Compendium). František Slamka thought the nearest occurrences were in Afghanistan and Central Africa, and that this could be a new species for Europe, although with the caveat that Cyprus is rather outside 'classic' Europe. He also commented that the 2011 photo was also likely to be of this species, but for this family reference to the genitalia was essential, as there are many similar species.

IB contacted EJ to see if he was aware of any Cyprus records. In response, EJ made enquiries of entomological colleagues in Cyprus, the Agricultural Research Institute, Lefkosia (Nicosia), the Plant Protection Research Institute, Pretoria (where a reference collection of *C. partellus* is held) and the Natural History Museum, London, among others. Initially no records of *C. partellus* in Cyprus, or elsewhere in Europe, were forthcoming. However, information was later received from Ole Karsholt, via Bjarne Skule, of two unpublished records, listed below:

> 1♀, Garyllis River, 14 km N Limassol, 300 m, 27.vi.1997, leg. D. Nilsson *et al.*, genitalia slide Vilhelmsen 800 (ZMUC);
> 1♂, 1 km S Alassa, at River Limnatis, 250 m, 13.v.1999, leg. C. Hviid & B. Skule, genitalia slide Vilhelmsen 815 (ZMUC).

Distribution

C. partellus is a tropical species of Asian origin and a known invasive pest of cereals, including sorghum *Sorghum bicolour*, maize *Zea mays*, and pearl millet *Pennisetum glaucum*. Hutchison *et al.* (2008) list 11 countries in Asia and the Middle East where the species occurs: India, Pakistan, Afghanistan, Nepal, Bangladesh, Sri Lanka, Thailand, Laos, Vietnam, Yemen and Indonesia. It is also found in most eastern and southern sub-Saharan countries in Africa including: Botswana, Cameroon, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Somalia, Sudan, South Africa, Swaziland, Tanzania, Uganda, Zambia and the islands, Comoros and Madagascar. The authors also give a single record for Australia. Ben-Yakir *et al.* (2012) records its discovery in Galilee, Israel in July 2010, and noted that the species had been found all over the north of Israel by the end of 2011.

Identification

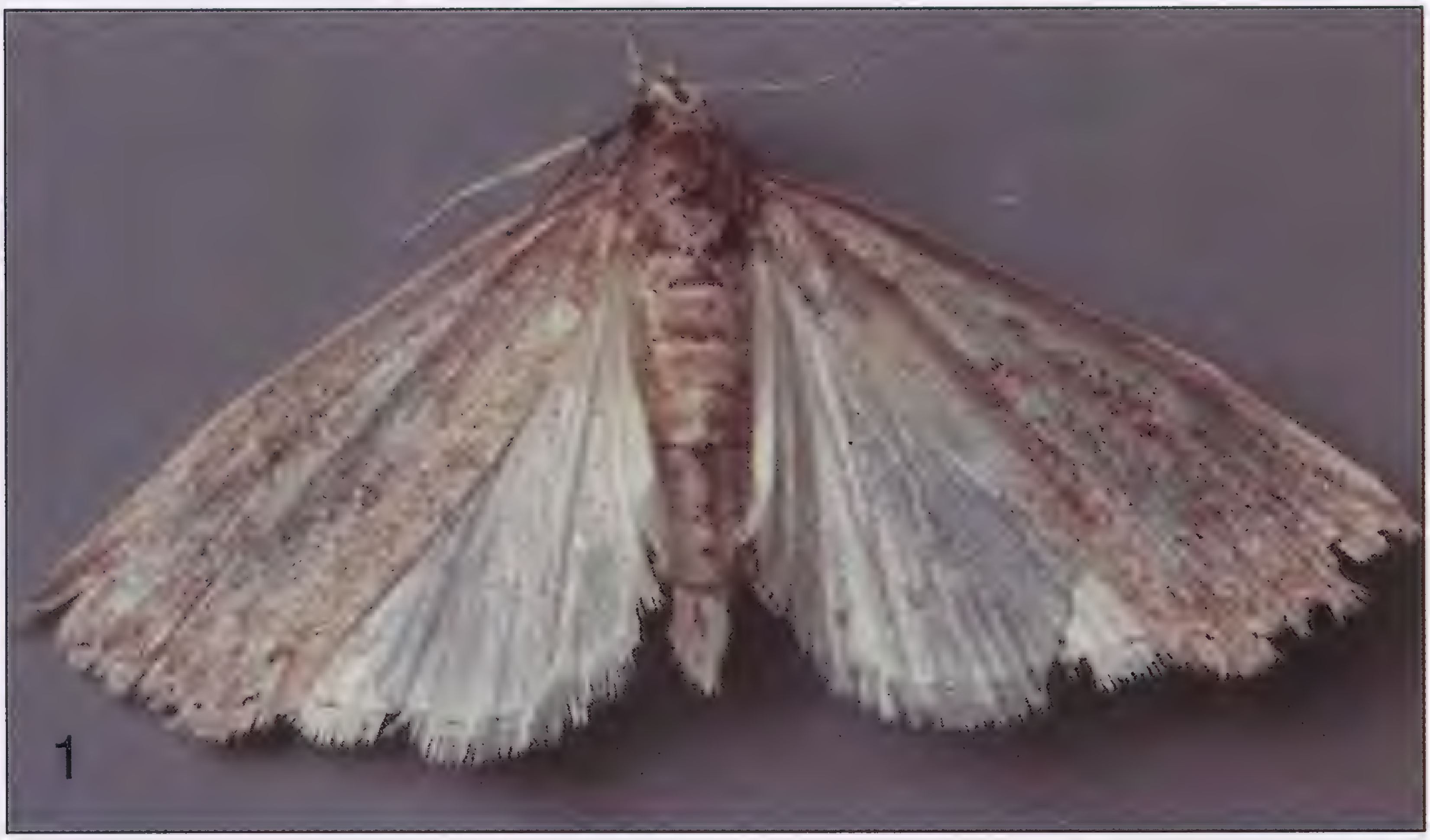
The species resembles many other members in its genus and identification is best confirmed by reference to the genitalia.

Head, antennae and labial palpi pale buff. Forewing light yellow-brown with darker brown scales. The darker scales may form one or two longitudinal lines, demarcate the ocellus and form dark interneural spots. The wing length is 7-17 mm, the female being the larger of the two sexes. The female moth caught in 2012 had a forewing length of 15 mm, but was well worn with a ragged termen. The hindwing is off-white, has a darker terminal line, and the fringe is concolourous.

Discussion

It is not possible to say how or when this moth reached Cyprus. However, such an invasive species could well have arrived unaided. Given the paucity of records, it is also not possible to say whether it is resident or if these three records are a chance reflection of primary migrations.

Despite being a serious pest species in other places, no information could be found about what effect, if any, it is having on crops on Cyprus (Vassilis Vassiliou, pers. comm.). However, *C. partellus* is known to utilise several uncultivated grasses (CABI - Invasive Species Compendium). There are several indigenous and non-native species from the families of known wild hosts, e.g. *Hyparrhenia*, *Panicum*, *Saccharum* and *Sorghum* that occur on the island (Hand *et al.*, 2012), which may allow the moth to exist in the wider countryside. The larvae of *C. partellus* are known to go into diapause during periods of drought so a wild population may well be viable on Cyprus. Use of CLIMEX, a flexible modelling and mapping tool, indicates that many additional countries could be conducive for *C. partellus* establishment, including North, Central and South America, the Caribbean and Europe – including the southern UK (Hutchison *et al.*, 2008).



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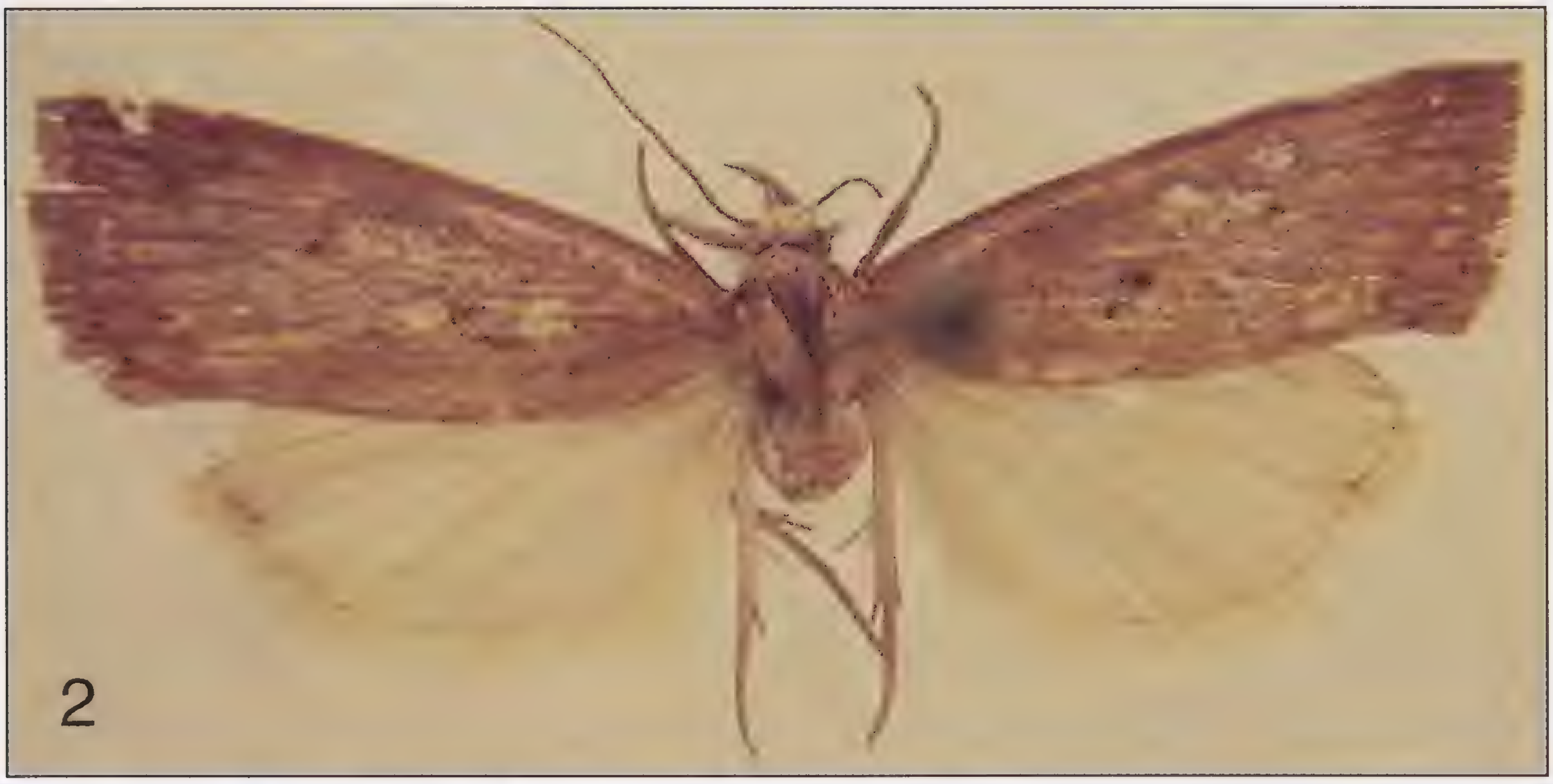

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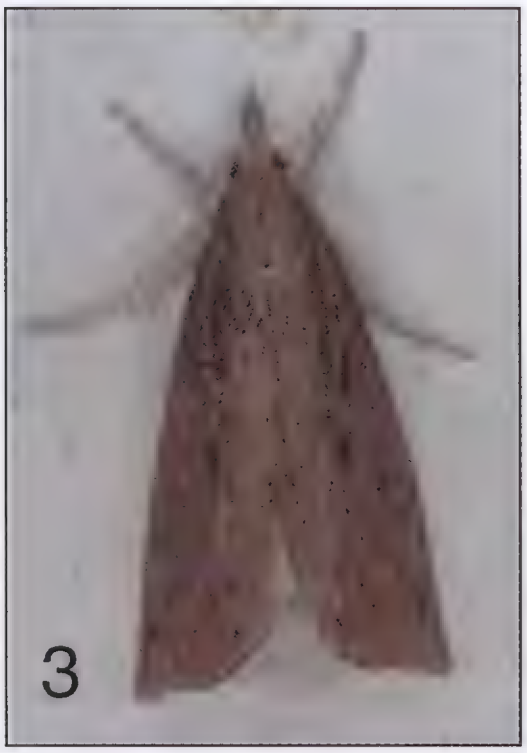

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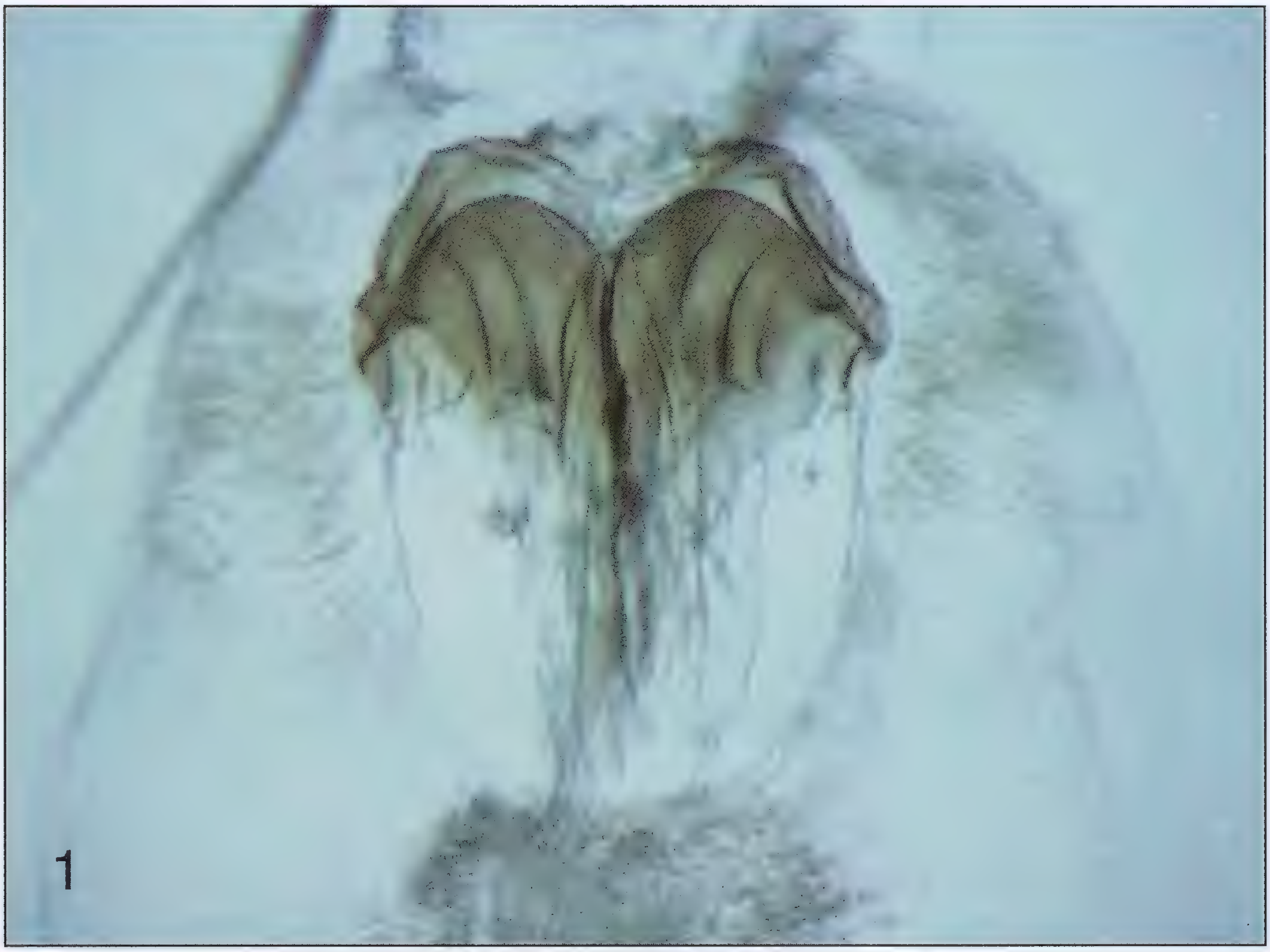
Plate 1. *Chilo Partellus* (Swinhoe, 1884) (Lep.: Pyraloidea, Crambidae). 1. Female, Nikókleia, Pafos, Cyprus, 14–27.iv.2012, leg. I Barton/K. Rosewarne. Photograph Ian Barton; 2. Female, Garyllis River, 14 km N Limassol, 300 m, 27.vi.1997, leg. D. Nilsson *et al.* (Photograph © Ole Karsholt); 3. Presumed *C. partellus*, Nikókleia, Pafos, Cyprus, 2011 (photo: Ian Barton).



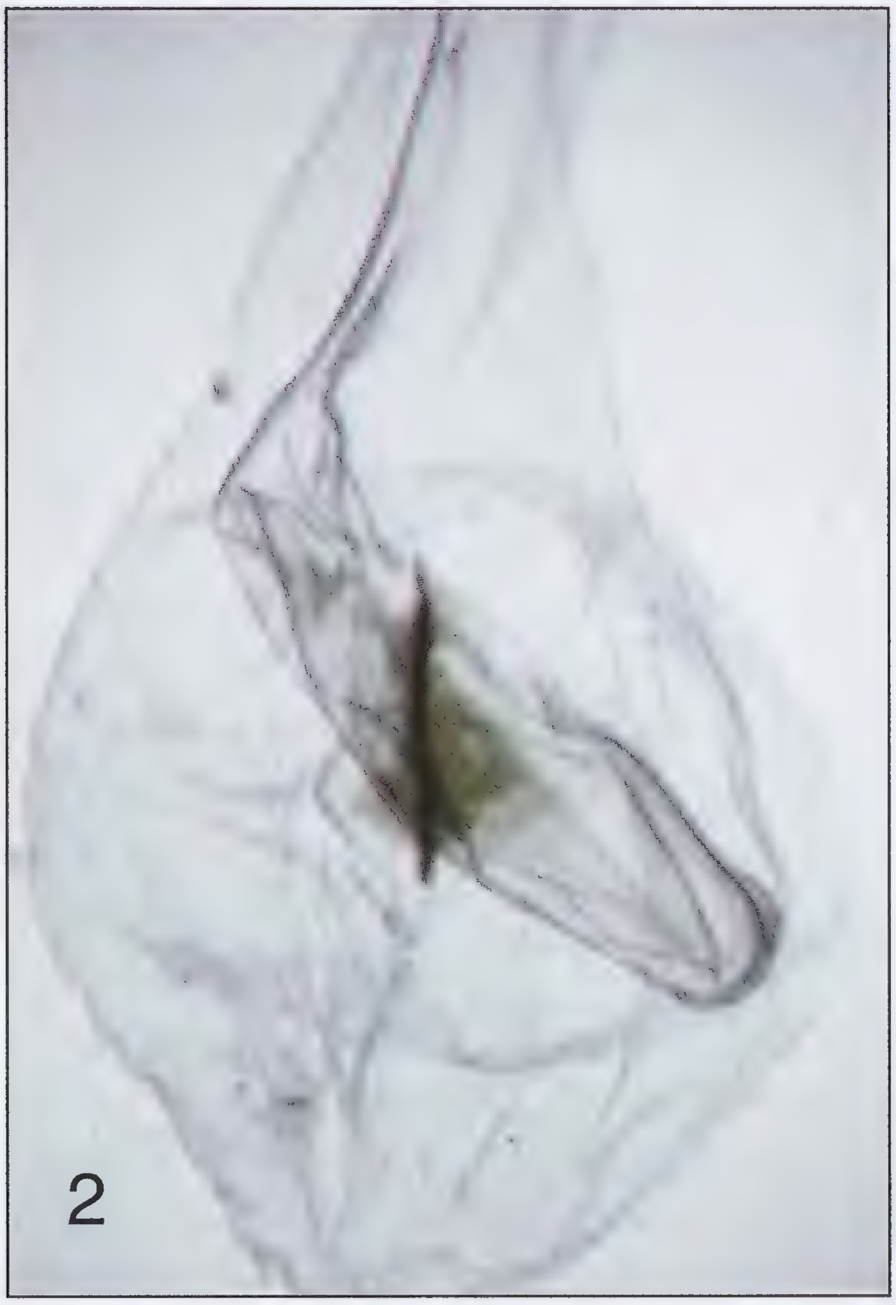


Plate 2. *Chilo partellus* (Swinhoe, 1884) (Lep.: Pyraloidea, Crambidae). Nikókleia, Pafos, Cyprus, 14–27.iv.2012, leg. I. Barton/K. Rosewarne (photo: Ian Barton). 1. Detail of sclerotisation of ostial area of genitalia; 2. bursa copulatrix and signum (photo: Ian Barton).

Acknowledgements

Our thanks go to František Slamka (Bratislava) for identifying the species, also to Ole Karsholt (Natural History Museum, Copenhagen, Denmark) for providing photographs of *Chilo partellus* and (via Bjarne Skule) information on previous records from Cyprus. Martin Honey (BMNH, London) helped with guidance on collecting techniques. At the BMNH (London), Andrew Polaszek, Martin Honey and Thomas Simonsen kindly assisted the third author with enquiries, as did Koen Maes (Wetteren, Belgium), David Ben-Yakir (Agricultural Research Organisation, Bet Dagan, Israel), Johnnie van den Berg (North-West University, Potchefstroom, RSA), and Rami Kfir (Plant Protection Research Institute, Pretoria, RSA); all are thanked for helpful comments and advice. Vassilis Vassiliou (Agricultural Research Institute, Lefkosía) helpfully assisted with enquiries relating to Cyprus. Colin Plant is thanked for his help and support in the preparation of this paper. Finally, IB and KR are grateful to the Department of Environment, Nicosia for the necessary licence to collect Lepidoptera on Cyprus. For licence application details see *http://www.cyprusbutterflies.co.uk/page21.html.*

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Strong indications of the establishment of the Hoary Footman, *Eilema caniola* (Hb.) (Lep.: Arctiidae) at Chorleywood, on the Buckinghamshire – Hertfordshire border

The Hoary Footman *Eilema caniola* (Hb.) is a resident and suspected immigrant that has been formally afforded Nationally Scarce, status. Until recently, its range within the British Isles has been mainly restricted to coastal areas of south-west England and Wales, but during the last decade or so it has been spreading eastwards along the south coast with occasional sightings inland. Some of these inland sites, in Berkshire, Hampshire, Kent, Middlesex, Surrey and Sussex, are said to be associated with quarries. The larval foodplants are lichens and algae growing on seaside cliffs and rocks, but it is also reported as feeding on bird's-foot trefoil and other leguminous plants.

On 11 September 2008 a female Hoary Footman came to my 125 watt MV Robinson pattern trap at Chorleywood (O. S. grid reference TQ 023963) – a suburban garden site in Buckinghamshire a few tens of metres from the Hertfordshire border. This moth, whose identity was confirmed by Colin Plant, was a county first for Buckinghamshire (VC 24). Although males are more often found in light traps, females tend to disperse for reproductive reasons, so this moth might well have been an immigrant.

A singleton also came to light at the same site on 10 August 2009, sex not recorded, and in 2010 there were single males on 1 July and 27 July 2010, confirmed by genitalia dissection by Colin Plant and Peter Hall respectively.

From the examples of E. caniola that I had seen I had good confidence in my ability to distinguish them, by visual examination, from the superficially similar Scarce Footman *Eilema complana* (L.). The size and resting positions are similar, but typical *caniola* has a silky, pale grey appearance with a rather faint pale yellow costa. The deciding factor, to me, is the upper surface of the hind wing, which is pale grey in *caniola*, but straw-coloured in *complana*. However, it is worth mentioning that Colin Plant has collected this species on many occasions in France, Spain, Hungary and Bulgaria and advises me that his moderate collection includes examples of both species that might easily be determined "by eye" as the other; consequently, examination of the genitalia is highly desirable in all situations where the either species is unexpected. In the males, this does not require dissection: careful brushing away of scales from the tip of the abdomen easily reveals the uncus which, in side view, is very different in each of these species (Plate 2).

None were seen here in 2011, but during 2012 a total of 25 *caniola* came to light. The first was caught on 25 July, then two on 26 July, one on 27 July, four on 1 August and three on 2 August. I was away from 3-10 August so the trap was not operated during this period, nor on the nights of 13 and 15 August. A further two were seen on 11 August, one on 14 August, five on 16 August, two on 17 August, then singletons on 18 and 19 August and on 13 and 17 September. After the first few had arrived, the unexpected abundance made me doubt my visual identification criteria, so all 25 were kept and later confirmed as *caniola* by Colin Plant. There were 22 males and three females.

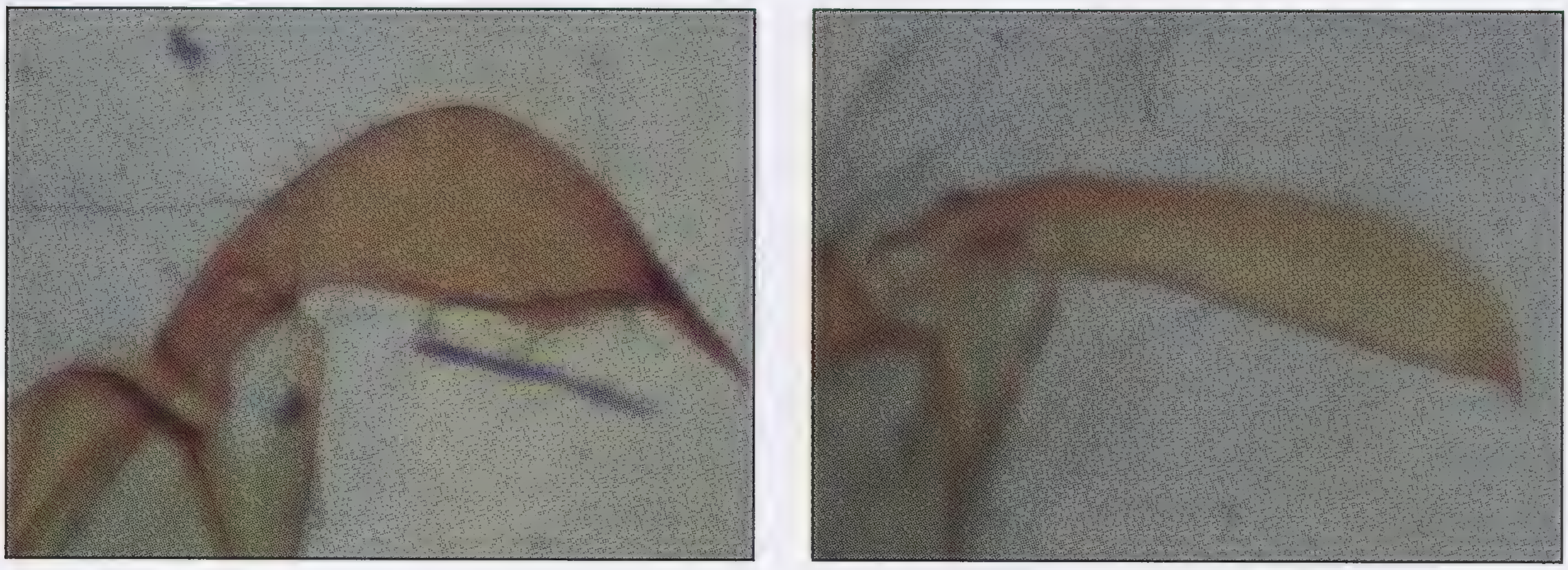

Plate 1. Lateral view of the male uncus of *Eilema caniola* (left) and *E. complana* (right).
Photographs © Colin W. Plant

Year	2005	2006	2007	2008	2009	2010	2011	2012
Number of *E. caniola*	0	0	0	1	1	2	0	25
Number of *E. complana*	110	153	51	24	25	29	6	29

Fig. 1: Annual records for *E. caniola* and *E. complana* at Chorleywood, Buckinghamshire.

There were three other records of *E. caniola* in VC 24 Bucks during 2012. Two males at Radnage, SU 791962, on 17 August (Ched George), and one male at Langley, TQ 019797, on 22 August (Rob Payne). None has yet been recorded in the neighbouring counties of VC 30 Beds, but there are now reports from both the adjoining counties of Hertfordshire and Middlesex (Colin Plant, personal communication). The abundance of *caniola* at this particular site in 2012 surely indicates the establishment of this species in the Chorleywood area?

A comparison of the annual records of the two species at this site (Fig. 1) is interesting; the rise of *caniola* seems to coincide with an apparent decline of *complana*, although the sample is far too small to be statistically significant.

My thanks to Colin Plant and to Peter Hall for dissecting specimens and confirming my identifications.

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Willow Ermine *Yponomeuta rorrella* (Hb.) (Lep.: Yponomeutidae) at Dungeness

During a trip to Dungeness with the Reading & District Natural History Society on 9 June 2013 there was much defoliation noticed on many of the willow *Salix* spp. and Blackthorn (*Prunus spinosa*) bushes around the RSPB nature reserve area. The larvae responsible were coloured green with large black spots and present in thick web colonies; those on willow were reared on and proved to be of the Willow Ermine *Yponomeuta rorrella.* Adults emerged on 23 July 2013. According to Sterling & Parsons (2012. *Field Guide to the Micro-moths of Great Britain and Ireland.* British Wildlife Publishing), larvae of this species are rarely observed in Britain; there must have been literally tens of thousands of larvae devastating the bushes. The larvae and also in this case pupae on the Blackthorn were not reared on, but may have been of the Orchard Ermine *Y. padella.*

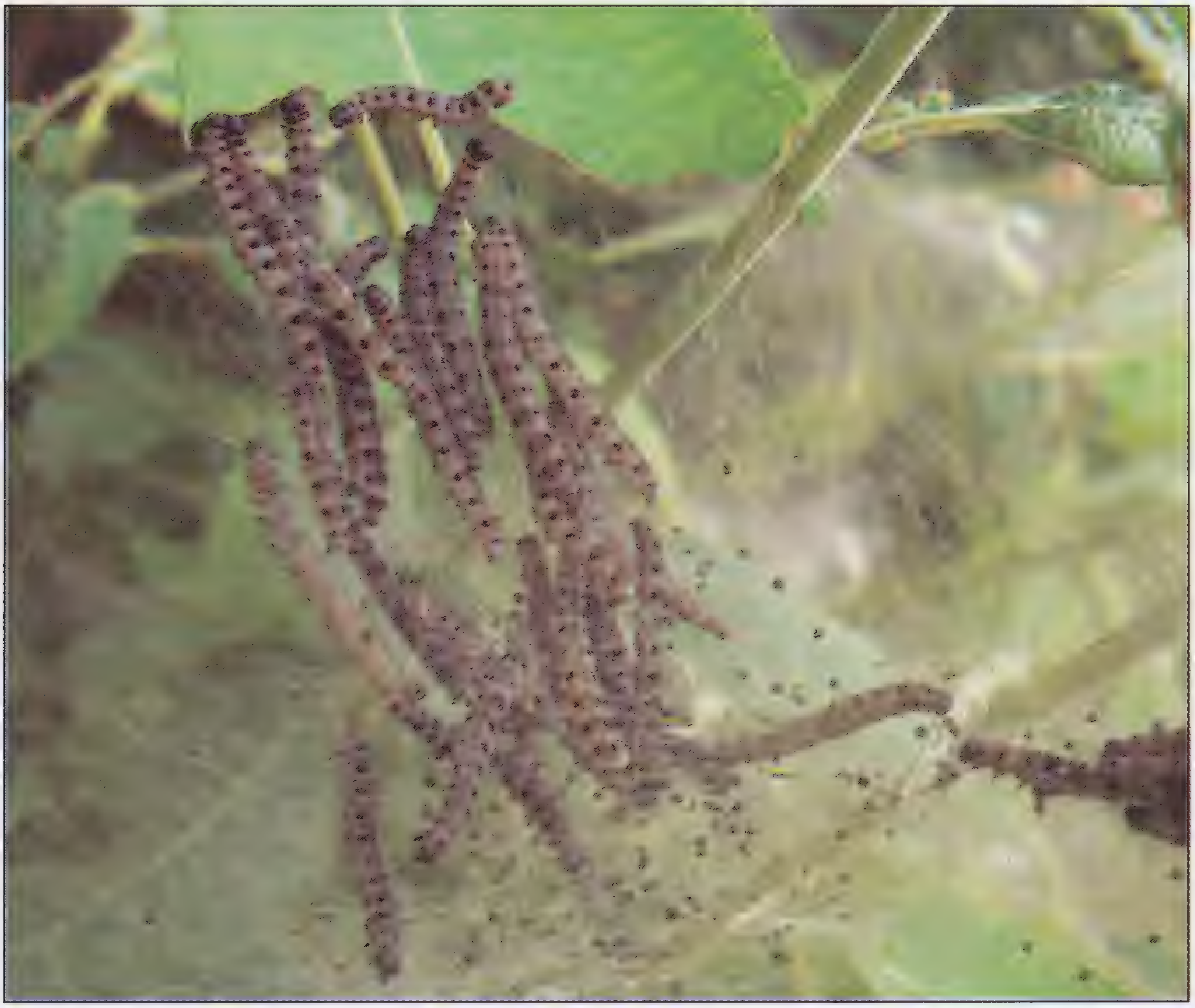

Plate 1. Larvae of *Yponomeuta rorrella* (Hb.) on *Salix* at Dungeness, Kent, 9 June 2013. Photograph © Laurie Haseler.

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HYDROPTILA VALESIACA SCHMID (TRICH.: HYDROPTILIDAE) NEW TO IRELAND WITH RECORDS OF TWO OTHER NOTABLE SPECIES

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Abstract

Hydroptila valesiaca Schmid is reported new to Ireland from two sites. *Ithytrichia clavata* Morton has been discovered at a second Irish site while *Tinodes maculicornis* (Pictet) has been found in south-east Ireland.

Keywords: Trichoptera, *Hydroptila valesiaca, Ithytrichia clavata, Tinodes maculicornis,* new records, Ireland.

Introduction

The senior author is compiling a detailed account of the Irish Trichoptera. This work involves the determination of a large amount of unidentified material collected by both authors over a forty year period as well as new collections to fill in known gaps in the available distributional information. The research has already revealed some new interesting discoveries, including a species new to Ireland and these are reported here. The specimens were identified using Malicky (2004), Marshall (1978) and Barnard and Ross (2012). Voucher specimens will be deposited in the National Museum of Ireland. The distribution of the three species are shown on longitude and latitude maps using the given Irish grid references.

Hydroptila valesiaca Schmid, 1947 (Hydroptilidae)

Kerry: Killarney V9786, Blue Pool, swept from vegetation beside a stream, ♂ 30 August 1987, JPOC. Kildare: Pollardstown (Newbridge) Fen N7616, swept from vegetation beside a stream near the Grand Canal, ♂♀ 11 September 1985, JPOC.

Hydroptila valesiaca is new to Ireland. It was added to the British list by Marshall (1977) based on two specimens from Scotland. Wallace (1991) remarked that the two known larval sites were small spring streams close to the sea but that there were inland adult records as well. Barnard and Ross (2012) mention that the species is not common in Scotland and also give the habitat as spring streams. The type series of *H. valesiaca* was collected on the banks of cool, clear streams in a damp and mossy meadow at 1200m in the Swiss Alps. Subsequently, additional specimens were taken in a peat bog at 1451m at another site in the Swiss Alps (Marshall, 1977). Since then, in addition to Britain, the species has been reported from the Czech Republic, Germany and Slovakia (Malicky, 2013). Numerous ♂♂♀♀ of *Hydroptila martini* Marshall were also present at the Pollardstown stream.

The two Irish sites are over 200km apart (Fig. 1) but both have spring streams that are calcareous in nature. The Blue or Cloghereen Pool is situated in the Cloghereen

Wood and is part of the Killarney National Park, Co. Kerry. Many theories have been put forward to account for the blue colour of the water but it is probable that it is the natural appearance of deep lime-rich water (Larner, c.1987). The pool is fed by land springs and a stream exits from it. Interestingly, this fast flowing stream is also the habitat for another rare Irish caddisfly *Philopotamus montanus* var. *scoticus* McLachlan, a variety which has not been found elsewhere in Ireland (O'Connor, unpublished data). J. J. F. X. King searched the stream for the normal *P. montanus* (Donovan) over a period of five or six weeks but could find none. He (1888) also remarked that both the lake and stream even during August were icy cold.

Pollardstown Fen is situated on the northern margin of the Curragh of Kildare, approximately 3km west-north-west of Newbridge. It lies in a shallow depression, running in a north-west/south-east direction. About 40 springs provide a continuous supply of water to the fen. These rise chiefly at its margins, along distinct areas of mineral ground above the fen level. The continual inflow of calcium-rich water from the Curragh, and from the limestone ground to the north, creates waterlogged conditions which lead to peat formation. There are layers of calcareous marl in this peat, reflecting inundation by calcium-rich water. It is the largest spring-fed fen in Ireland and owing to the rarity of this habitat and the numbers of rare organisms found there, the site is rated as of international importance and is a Special Area of Conservation (Anon, 2013).

Ithytrichia clavata Morton, 1905 (Hydroptilidae)

Kerry: Lough Derriana V6072, ♂ 6 July 1973, JPOC.

Ithytrichia clavata was first recorded from Ireland by O'Connor (1982) who reported 3♂♂9♀♀ from the River Curraheen (Q7811) on the Dingle Peninsula, Co. Kerry, in south-west Ireland. The river was torrential at the capture site with stones, rocks and boulders and only about 4m wide. Mosses, gravel and small waterfalls were also present. O'Connor (*op. cit.*) noted that he only identified the specimens when he was selecting caddisflies from his collection for the National Museum of Ireland i.e. nine years after the original capture. This is significant as the new specimen also originates from 1973, indeed the previous day, and too was unidentified, being merely labelled "*Ithytrichia* sp.?". L. Derriana lies at the top of the Cummeragh System and is nestled amid some of South Kerry's most spectacular mountain views. The specimen was swept from vegetation including trees and bushes on the exposed shore of the lake. However the River Cummeragh exits the lake at this point. O'Connor sampled the upper Cummeragh and the field diary description show that its characteristics are very similar to those of the Curraheen: "River appro[x] 5yds [5m] wide. Where sampled a ranging torrent over boulders, rocks & solid rock. However in places quiet eddies exist with sand gravel etc. Water celery present". There is little doubt therefore that the Derriana specimen originated in the adjacent Curraheen.

Ithytrichia clavata is a rare species in the British Isles. Barnard and Ross (2012) only report it from the Lake District, north-western Wales and southern England, but

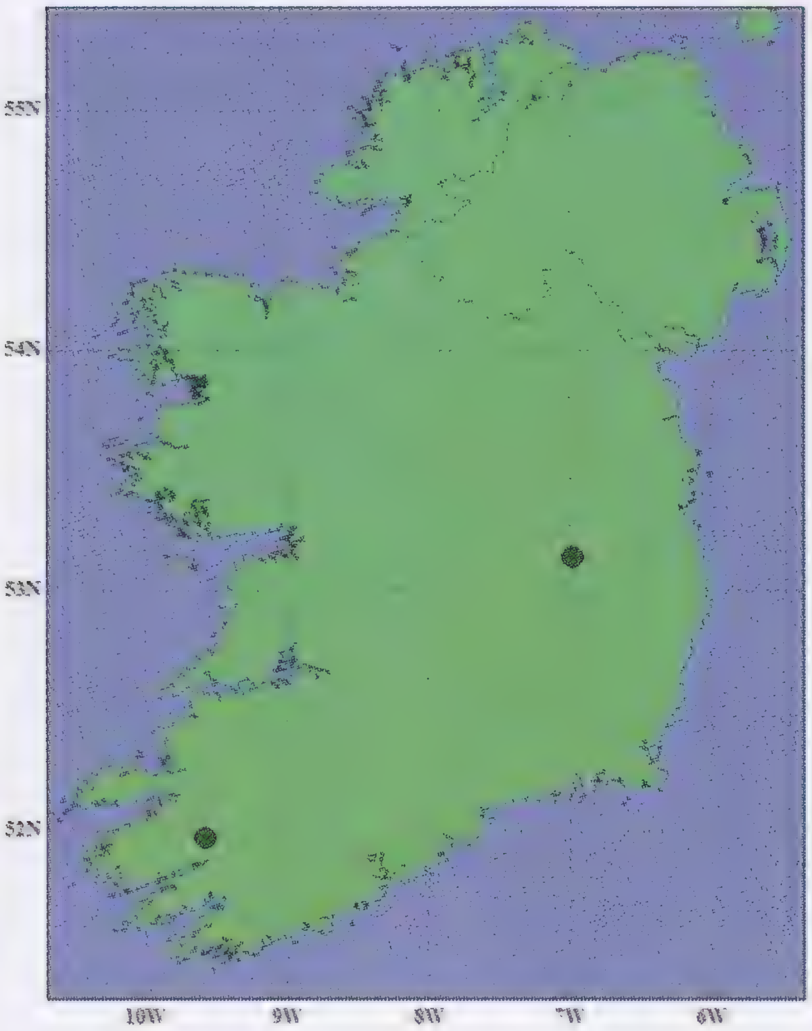

Figure 1. The Irish distribution of *Hydroptila valesiaca* Schmid.

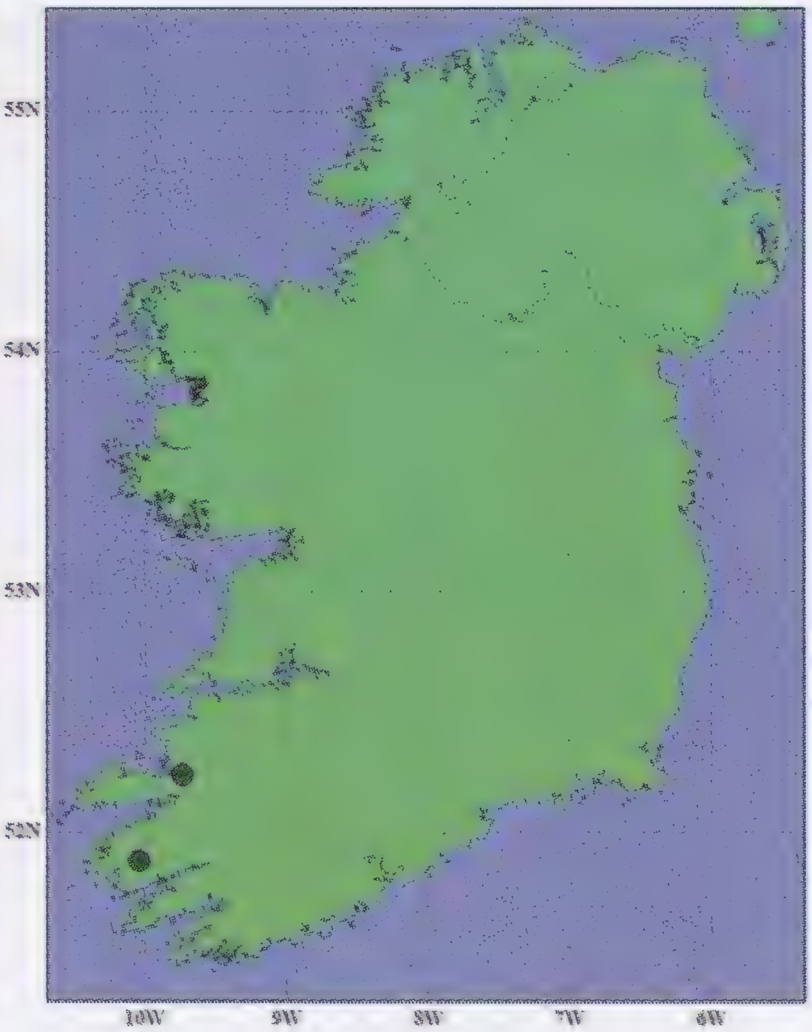

Figure 2. The Irish distribution of *Ithytrichia clavata* Morton.

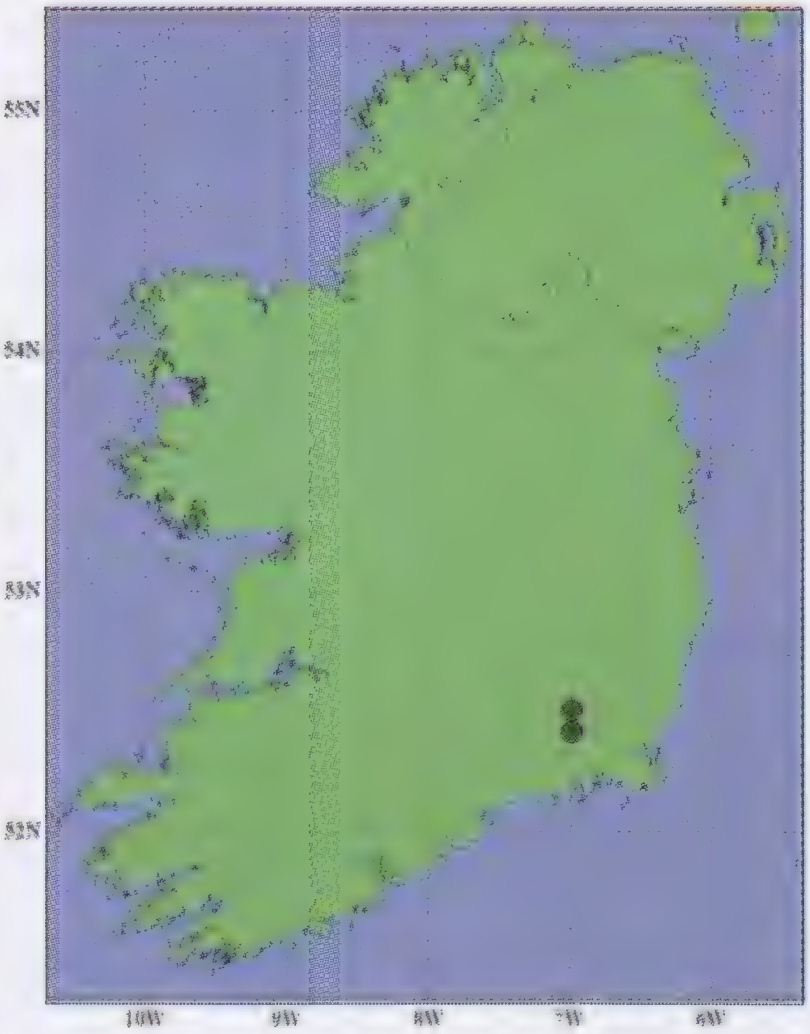

Figure 3. The new Irish distribution records of *Tinodes maculicornis* (Pictet).

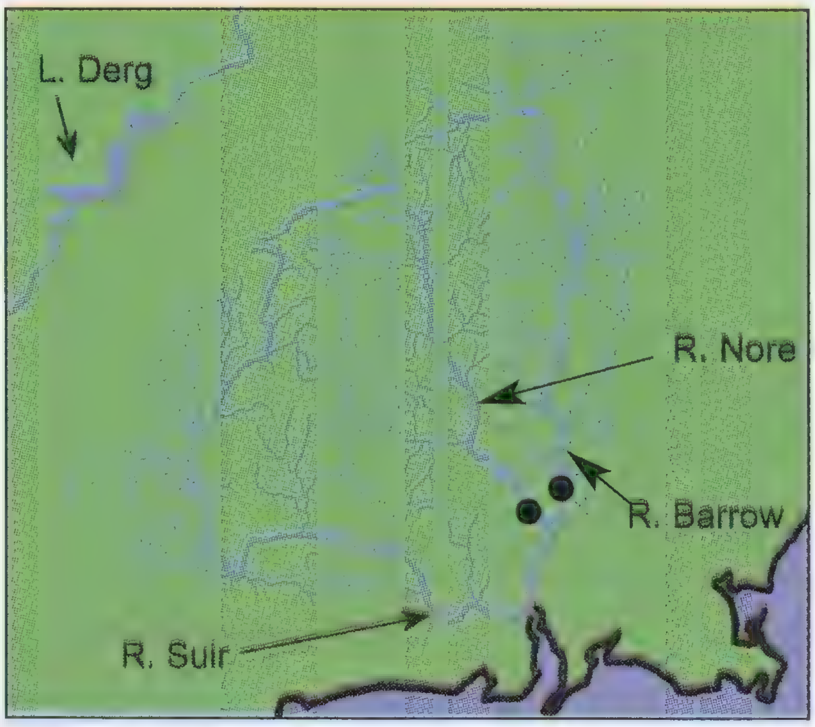

Figure 4. The catchment area of the Barrow, Nore and Suir Rivers. The new sites for *Tinodes maculicornis* are indicated by black dots on the relevant rivers.

with very few records. The new Irish record is from the Iveragh Peninsula which adjoins the Dingle Peninsula (Fig. 2), perhaps indicating that the species is widespread in fast rivers in the south Kerry area.

Tinodes maculicornis (Pictet, 1834) (Psychomyiidae)

Carlow: St Mullins S7237, swept from vegetation on the banks of a small river entering R. Barrow, ♂ 1 July 1991, JPOC & MOC; St Mullins S7237, ♂ 9 August 1994, JPOC. Kilkenny: R. Nore S6535, ♂ 13 July 2013, specimen flew on to a boat during a cruise near a ruined castle, MOC & JPOC.

Tinodes maculicornis, a species not found in Britain, mainly occurs in central Ireland but there are northern and more southern records respectively from Co. Donegal and Lough Derg on the lower R. Shannon system in Co. Clare. The larvae have been reported from calcite encrusted stones, rocks etc. in the littoral zones of lakes and their tubes are often embedded in this material (O'Connor & Wise, 1980). However, King (1889) found the species on a small river (Twy River, now known as the Breensford or Ballykeeran River) in Co. Westmeath.

The Carlow specimens are both probably from the same small river in St Mullins while the Kilkenny specimen flew onto the boat in an area where small streams and rivers enter the Nore (Fig. 3). The Barrow and the Nore unite before flowing into a third river, the Suir, which enters the sea south of Waterford. Known as "the three sisters", the three rivers together form a catchment area of 9,207Km^2 and drain a large portion of south-eastern Ireland including counties Carlow, Kilkenny, Tipperary, Waterford and Wexford (Fig. 4). The presence of *T. maculicornis* in this catchment therefore represents a significant expansion in its known distribution and the species may be common in many small rivers and streams throughout it.

Acknowledgement

The distribution maps of the three species were prepared using DMAP. The authors are indebted to Alan Morton for his kindness in supplying an easy to use programme which enabled Irish grid references to be plotted on maps showing longitude and latitude.

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An observation of apparent dispersive movement in Long-tailed Blue *Lampides boeticus* (L.) (Lep.: Lycaenidae)

Although the literature (e.g. Asher et al., 2001. *The Millennium Atlas of Butterflies in Britain and Ireland.* OUP; Newland & Still, 2010. *Britain's Butterflies A Field Guide to the Butterflies of Britain and Ireland,* second edition. WildGuides) routinely describes the Long-tailed Blue *Lampides boeticus* as a migratory species, I was unaware that little written evidence exists of migratory activity in this species, although many other migrant species have documented witness accounts of such events. It is documented that the species has been introduced (in the larval form) to various countries inside imported leguminous foodstuffs, for example by Emmett & Heath (eds, *The moths and butterflies of Great Britain and Ireland 7(1): Hesperiidae - Nymphalidae)* Harley Books) and Asher et al. (*op. cit.*) whilst the British Butterflies website (*http://www.britishbutterflies.co.uk/species-info.asp?vernacular=Long-tailed+Blue*) lists four such imports. Accounts of dispersive movement are important to support the claim that this is a migratory species. By dispersive is implied an apparent movement of many individuals away from a location (and often in one direction), as opposed to mate location or foraging behaviours, for example, which rarely occur with many individuals all moving in a similar direction. The assertion that the Long-tailed Blue is a migratory species is widely repeated in texts and may be based upon the sudden appearance of adults at coastal locations during periods of migrant activity and where no immature stages were previously known to have been present.

On 4 April 2013, I was at Evretou dam, a reservoir in south-western Cyprus, when I became aware of a northward movement of Long-tailed Blue. The species is resident on the island and believed to both disperse from areas of high population density within the island and also to pass through on migration from Africa. Accustomed to calculating the rate of migrating Red Admiral *Vanessa atalanta* (L.) and Painted Lady *V. cardui* (L.) in the UK I started a timed count between two fixed points for my own interest. Observing from a fixed position on a grass bank and across a track, at an approximate distance of 3m from a natural 'hedge', bordering the reservoir, I counted the passing Long-tailed Blues. No doubt the habitat boundary/barrier of the large open expanse of water and the protection of the shrub belt from a stiff wind blowing over the reservoir, concentrated butterflies onto this track. I had been aware of the movement for some 15 minutes prior to making the count. Separated by an interval of perhaps 20 minutes, I made two timed counts of one minute each, of what had become a fairly steady stream of individuals and small groups all heading slightly east of due north. Flight followed a course largely along the 'hedge-line' of scrub bordering the reservoir's shoreline, consequently out of the full force of a stiff south-westerly wind.

In the first minute, at approximately 13.45 hours (local time) I counted five individuals. In the second, approximately 20 minutes later, I counted only three, but felt this was a un-representative 'minute' and immediately repeated that count. I achieved a count of four in the next minute. Subjectively I felt that the number passing per minute was higher. If I had realised the potential importance of the observation I would have made more effort to establish a reliable rate of movement. However, it seems reasonable to assume that about four individuals were passing over a three-metre wide strip each minute for at least 35 minutes, flying at a height of roughly 1-2.5m.

Later in the afternoon (at about 15.00 hours), the movement had reduced to one butterfly every few minutes, but the directional nature of the movement was still obvious with only a single Long-tailed Blue butterfly observed heading in any other direction, at that position, all afternoon. Most of the butterflies were moving "single-mindedly". The few that paused to nectar, resumed their flight in the same direction. I estimate that I saw 150 – 200 Long-tailed Blue all headed in the same direction.

No other butterfly species displayed dispersive movement, though 14 species were identified flying there that afternoon, including other species described as 'migratory', such as Small White *Pieris rapae* (L.) Large White *P. brassicae* (L.) and Painted Lady *V. cardui*.

I am grateful to the recorder of butterflies of Cyprus (Eddie John), who asked for detail (realising the rarity of such a record) and checked with his correspondents for similar observations. No other observer on the island that day or during a period of days spanning the observation saw any similar movement, indicating that the passage was one of localised dispersal.

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Diptera additions to the leaf mine host plant list

An up to date record of the host plants of leaf mining insects in Britain is maintained by Colin Plant and Brian Pitkin on the British leaf miners web site at *http://www.leafmines.co.uk/html/plants.htm*; this is a valuable resource for checking potential new host plant associates, of which there are probably many that remain undiscovered or unreported. The following two appear to be new.

(i) Chromatomyia horticola (Goureau, 1851) – Agromyzidae

On 2.vii.2013, I noticed leaf mines on Rocket *Eruca sativa*, which was growing in my garden. The only leaf miner known from this host was the agromyzid *Liriomyza huidobrensis* (Blanchard, 1926) and this was in quarantine only (Pitkin, 2013, personal communication). The mines on *Eruca* were long and serpentine, with widely spaced frass grains and there was a pupa at the end of the mine. The agromyzid *Chromatomyia horticola* (Goureau, 1851) is known from this host in Europe (see *www.bladmineerders.nl*) and these mines matched this species. To confirm this identification I reared the fly and it duly emerged on 10.vii.2013. Thanks to Brian Pitkin for confirming this record.

(ii) Scaptomyza flava (Fallén, 1823) – Drosophilidae

Looking at Peas *Pisum sativum* in my garden on 11.vii.2013 I found leaf mines which I initially thought were the agromyzid *Agromyza lathyri* Hendel, 1923. Discussions with Willem Ellis were very helpful here and highlighted that it was difficult to distinguish between mines of this species and those of *Scaptomyza flava* in the thick fleshy leaves of this host. A feature of the *Scaptomyza* mines is the presence of greenish frass and this was duly found on opening a mine. Confirmation of *Scaptomyza flava* larvae mining *Pisum* came on 10.vii.2013, when a larva pupated. The pupa is very distinctive, with three projections on the anterior spiracles. I am grateful to Brian Pitkin for confirming my identification.

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The first record of *Acrolepia autumnitella* Curtis, 1838 (Lep.: Glyphipterigidae) in Scotland

Alison Robertson noticed a moth at the window of The Crichton conference/business centre, Dumfries (O. S. grid reference NX 985743, VC 72) on 14 August 2013 and found it to be an unfamiliar micro moth (Plate 1, Fig. 1). It looked very similar to some photographs on the internet of *Acrolepia autumnitella*, a species mainly in the south and midlands of England. This was perplexing. However, two days later, armed with knowledge of its foodplant, Alison checked for Bittersweet *Solanum dulcamarra* at The Crichton and found four leaves with tenanted mines (Plate 1, Fig. 2). The

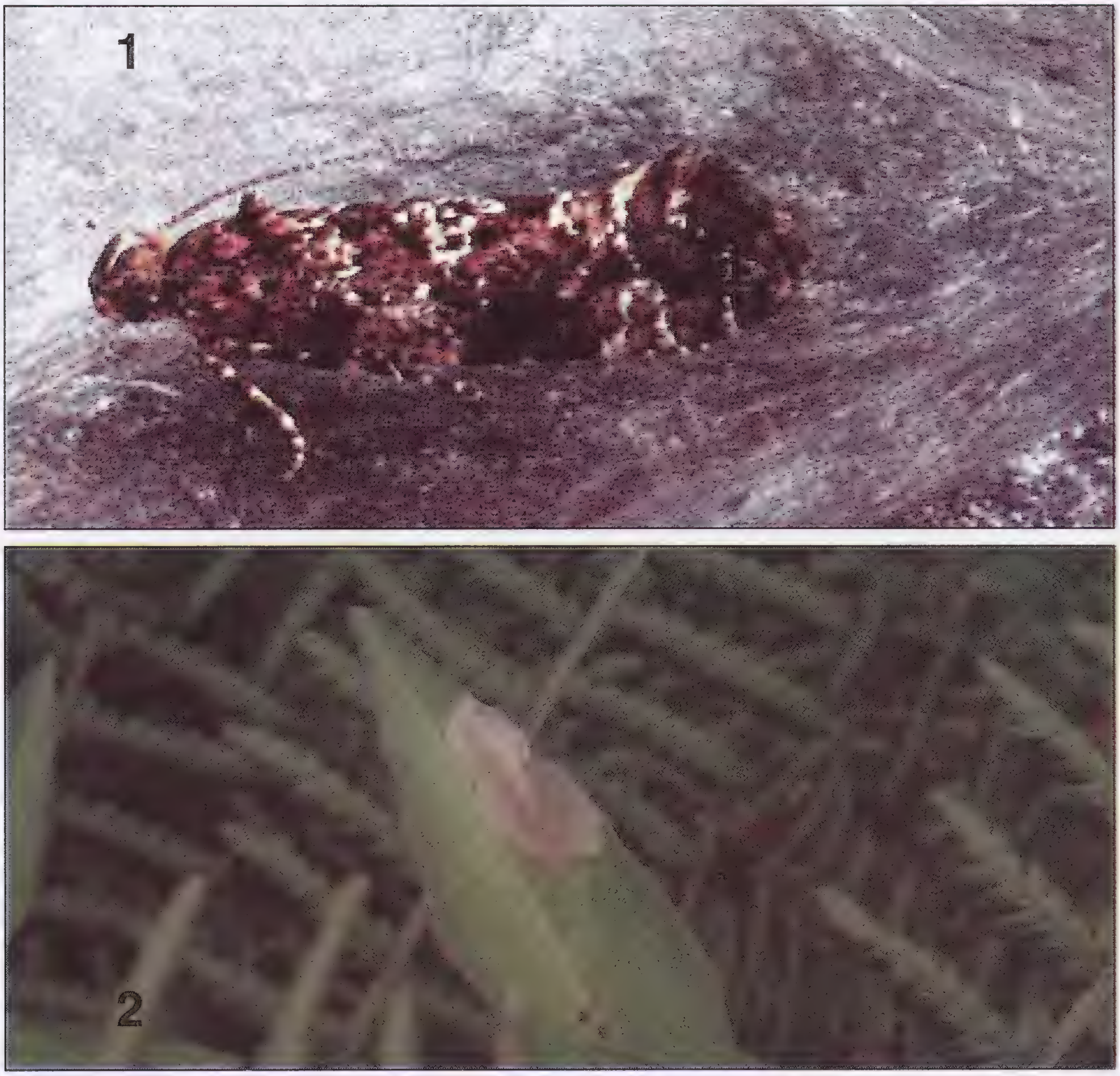

Plate 1. *Acrolepia autumnitella* Curtis, Dumfries, 2013. 1. adult moth; 2. larval mine in leaf of *Solanum dulcamarra.*

selection of photos were sent to Mark Young, keeper of the Scottish micro moth list, who confirmed its identity and the fact that it was new to Scotland.

One of the foremost lepidopterists of our Region, William Lennon, who worked at The Crichton when it was a Sanitorium, also caught a "first for Scotland" there on 6 September 1865. He noticed a strange micro moth on the outside of a window, but he was on the inside and to obtain it he broke the glass and caught it. It turned out to be *Euchromius ocellea* (Haw.), the first for Scotland and only the third for Britain. H. G. Knaggs, the editor of the *Entomologists' Monthly Magazine* **3**: 139, took it to the British Museum and compared it with the only known specimen there. The other was caught in Glamorganshire in 1862. So you see lightning does strike twice!

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Signs of migration of Lepidoptera at high altitude in eastern Switzerland

On the nights of 8 and 9 August 2013, I camped by the roadside near the top of the Albula Pass in the Graubünden Canton of Switzerland at an altitude of 2300 metres above sea level. In this part of the pass the habitat is steep rock to the summit with sparse vegetation; it was disturbing to hear rock falls during the night and in the morning to see rocks as big as dinner plates falling only a few metres from the vehicle. The weather had been poor for two days with heavy rain and low temperatures. A strong wind blew from the south-east. On the night of 8 August the temperature when I started the mv light was 9°C degrees and at dawn it was 7°C. In addition to a very few resident moths, there were two *Diasemia reticularis* (L.), nine *Agrius convolvuli* (L.), 20 *Autographa gamma* (L.) and two *Agrotis ipsilon* (Hufn.), all of which were assumed to be on migration. The migrant moths were released onto the rocks and it was interesting to note that the *convolvuli* did not move their position throughout the day's violent weather, but remained alert nevertheless and flinched at my approach. One or two may have been predated by a Weasel (*Mustela nivalis*), which was seen searching the rocks.

After atrocious weather throughout the day (I hate Switzerland) the temperature was 5°C at dusk and 2° at dawn; although by then it had stopped raining. The second night saw as migrants a single *Acherontia atropos* (L.) on the ground near the trap, two *A. gamma*, one *Amphipyra pyramidea* (L.), one *Noctua pronuba* (L.) and one *N. fimbriata* (Schreber). The *convolvuli* on the rocks did not move during the night, but were still as alert as before.

The species seen over the two nights are as follows:

Residents

Geometridae
Four *Mesotype verberata* (Scopoli) including f. *vogesiaria* Peyerimhoff, 1880

Erebidae
One *Arctia (A.) flavia* (Fuessly)

Noctuidae
One *Dichagyris renigera* (Hübner)
Two *Agrotis fatidica* (Hübner)
Four *Xestia (Pachnobia) alpicola* (Zetterstedt) ssp. *ryffelensis* Oberthür

Assumed migrants

Crambidae
Two *Diasemia reticularis* (Linnaeus)

Sphingidae
Nine *Agrius convolvuli* (Linnaeus)
One *Acherontia atropos* (Linnaeus)

Noctuidae
22 *Autographa gamma* (Linnaeus)
One *Amphipyra pyramidea* (Linnaeus)
Two *Agrotis ipsillon* (Hufnagel)
One *Noctua pronuba* (Linnaeus)
One *Noctua fimbriata* (Schreber)

It would seem that these moths moving north through Europe are funnelled through the high passes and if caught by inclement weather are capable of surviving for a time before continuing their journey – at least as far as the larger moths are concerned.

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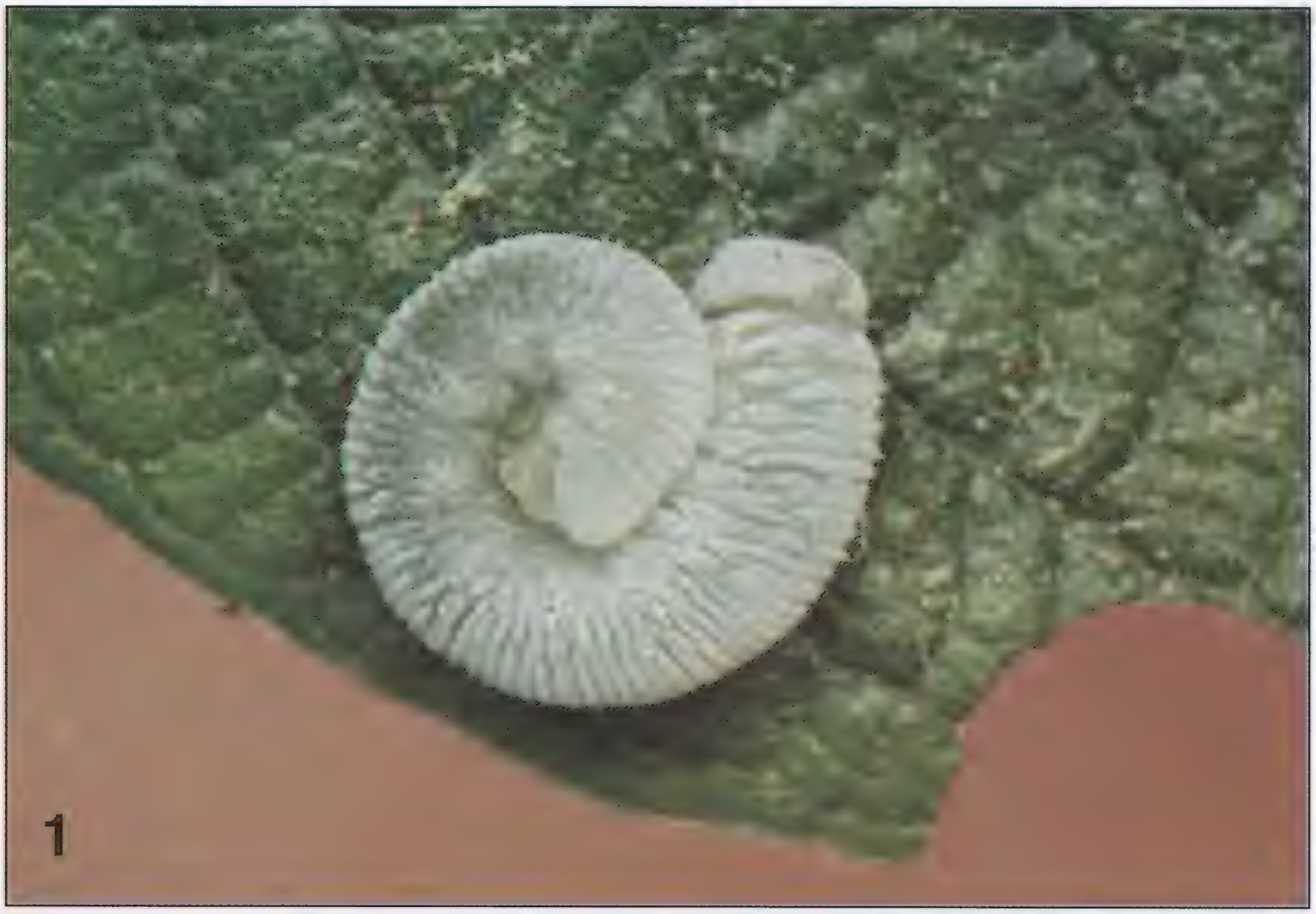
***Cimbex luteus* (L.) (Symphyta: Cimbicidae) feeding on sallow *Salix* sp.**

On 23 June 2013 we were in the Cranwich Heath area of the Breckland and were looking at *Phyllonorycter* mines on sallow (possibly *Salix caprea*) when a small cimbicid larva was found in the characteristically curled up resting position of that family, on the underside of a partly eaten leaf (Plate 1, Fig. 1). It was reminiscent of *Cimbex luteus* larvae we had previously reared through, on smooth leaved *Salix* sp, from a female we found 8 July 2007 (Barton, 2007. *Cimbex luteus* (L). Sawfly Study Group Newsletter, December 2007, Liverpool (3): 9). We could find no reference to *C. luteus* using sallow and R. B. Benson's handbook (Benson, 1951. Hymenoptera, Symphyta. *Handbooks for the Identification of British Insects* **6**(2a): 1-49. Royal Entomological Society) as well as the later edition of this key (Quinland & Gould, 1981. Symphyta (except Tenthredinidae). Hymenoptera. New edition. Handbooks for the Identification of British Insects **6**(2a): 1-67. Royal Entomological Society) give smooth-leaved *Salix* and *Populus* as foodplants. We contacted Guy Knight to ask if he was aware of any similar records, after pointing out we had no information on or experience of similar large cimbicids in the genus *Trichiosoma.* GK responded that given the now developing dorsal stripe and food plant *Trichiosoma* could be discounted. Also that he knew of published records from Finland of *C. luteus* using sallow (Kontuniemi, 1960. Suomen sahapistiäistoukkien ravintokasvit. Die Futterpflanzen der Sägewespenlarven (Hymenoptera, Symphyta) Finnlands. *Animalia Fennica* **9**: 1-104) and also two recent unpublished UK records from Hitchin, Hertfordshire and Ramsey, Cambridgeshire.



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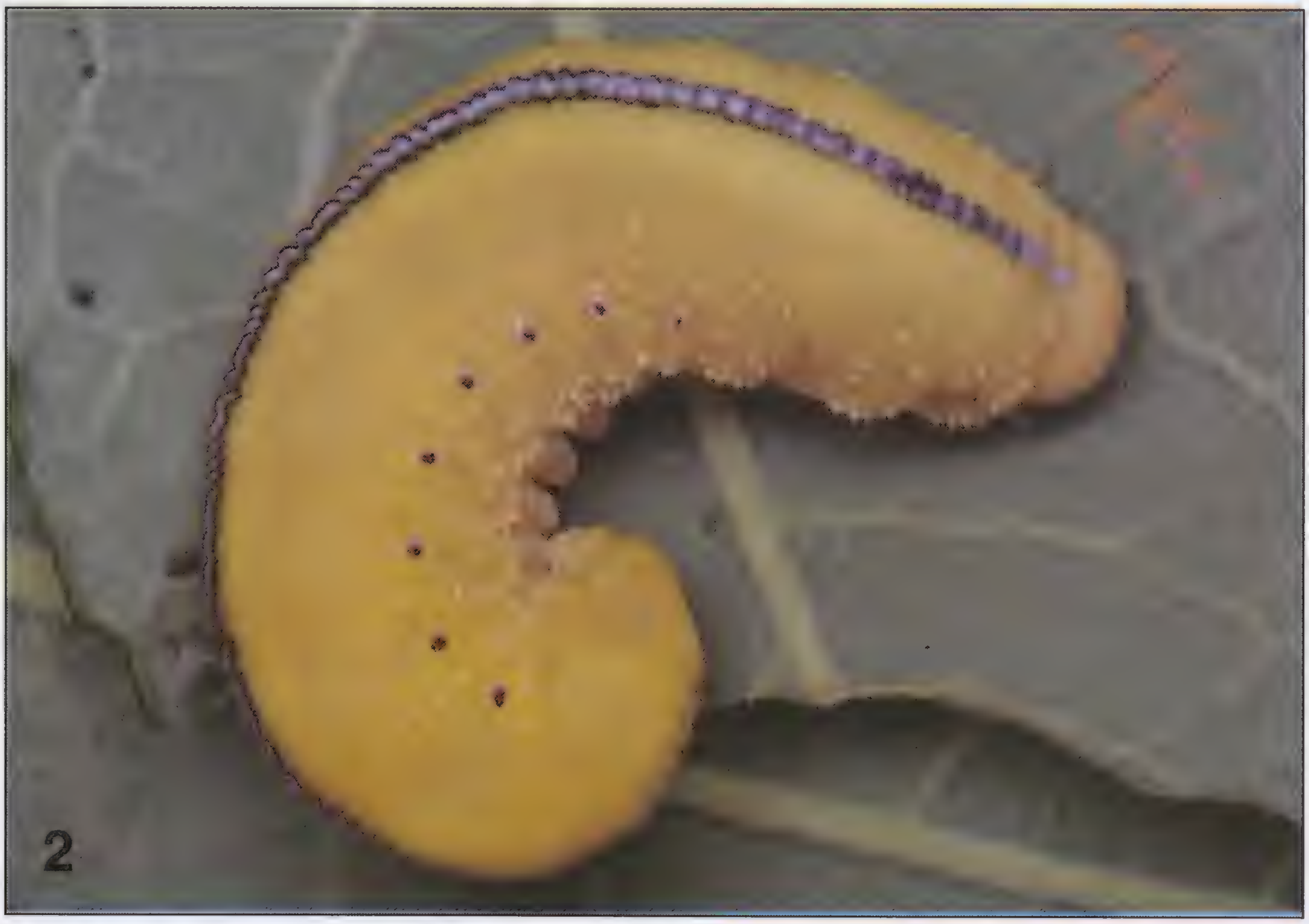

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Plate 1. *Cimbex luteus* larva. 1. The larva on 24.vi.2013; 2. the same larva when fully fed, on 12.vii.2013.

The larva fed on sallow leaves we provided, obtained from various trees near to home. Initially we were worried about getting the food plant right, avoiding a 50 mile round trip to get food from where we found it (as, in 2007, we inadvertently killed several larvae by feeding them what we thought was the same kind of willow the female was found on … losing the lot was only averted by providing leaves from a tree on which we had found 4 'wild' *Cimbex luteus* larvae on 19 August that year).

It was fully fed by 12.vii.2013 and at this point it was about 52-53 mm in length (Plate 1, Fig. 2). After the final dropping was passed the larva remained outwardly inactive for around eight hours before descending from the food plant to search for a pupation site, which in this case was a netted yellow bucket with drainage holes, half filled with sterile soil, topped off with dead willow sticks and small logs. If it survives it could emerge next year though we have had a *Cimbex connatus* (Schrank, 1776) emerge after two years.

Although this insect has always been, and remains, rare in Britain, GK also noted an apparent increase in the frequency of records of this species in recent years, especially from the south-east and east of England. The related species, *Cimbex connatus* has had a dramatic resurgence in Britain in the last few decades and is now widespread in much of southern and eastern Britain after not being recorded here in the half century prior to this. Perhaps it is now easier to recognise and record these impressive insects than it once was and it remains unclear whether *C. luteus* is also genuinely increasing. GK would be pleased to hear of any further recent records.

I would like to thank Guy Knight for his help with records and for his helpful comments on this note.

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***Phytomyza hellebori* Kaltenbach, 1872 (Dip.: Agromyzidae) now on *Helleborus niger* (Christmas Rose) in the UK**

It has become customary for my Sunday afternoons to be spent taking my partner's elderly mother to various private gardens open under the National Gardens Scheme. As well as pointing out the names of various unusual plants or shrubs to her (that is, when I know them!), these occasions allow me to search for leaf mines on what would otherwise be private property. The Stinking Hellebore *Helleborus foetidus* is a common garden plant and my NGS visits have shown the mine *Phytomyza hellebori* to be frequent on these plants. This was the case at Garden House, Swan Lane, Pluckley (VC 15, East Kent) on 30 June, 2013. However, near the entrance to the garden as we departed I caught sight of a mine on a leaf of the Christmas Rose *Helleborus niger* (Plate 1). This was a plant I had often examined for mines, but which had always in my experience been mine-free.

Being temporarily without hand lens or camera (those having been mislaid along with other precious possessions in France on my return from holiday the previous

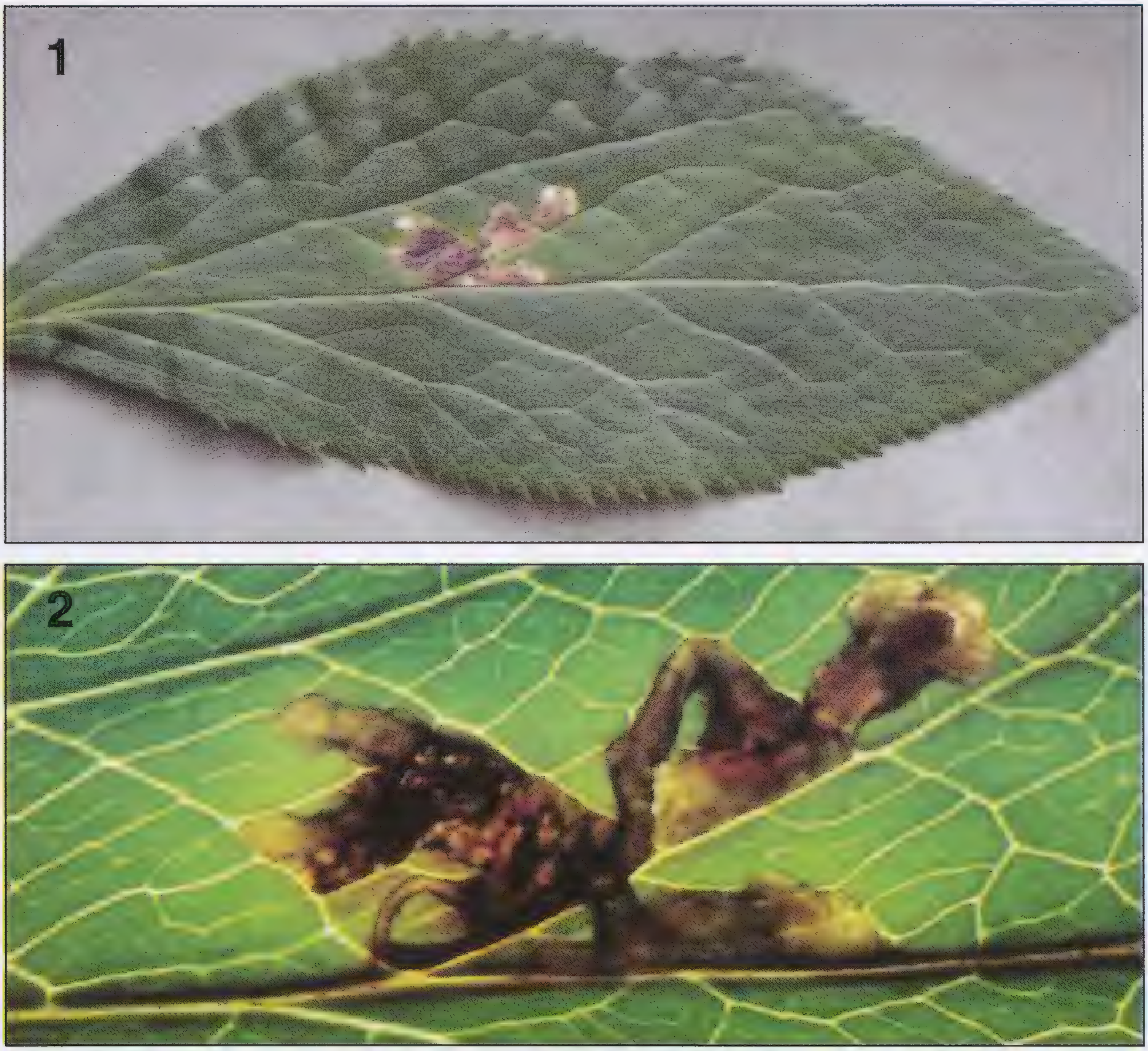

Plate 1. Mine of *Phytomyza hellebori* on *Helleborus niger,* Pluckley, East Kent, 30 June 2013. © Keith Palmer. 1 Whole leaf; 2. Detail.

day), I lost no time in sending the actual specimen to Rob Edmunds. He believed it to be *Phytomyza hellebori* and kindly checked with the European agromyzid expert Dr. Michael von Tschirnhaus who confirmed that it was indeed a mine of this species. In his reply to Rob he commented that *Phytomyza* species on the Ranunculaceae are very host-specific as far as food-plant genera are concerned, but less so with respect to food-plant species. He also said that worldwide no other agromyzid is known from *Helleborus*. This mine has been recorded on *Helleborus niger* in the Netherlands, but according to the constantly updated hostplant list maintained by Colin Plant and Brian Pitkin at *www.leafmines.co.uk*, not previously in the UK. This record therefore represents the first known record of the mine on *H. niger* in this country.

I would like to thank Rob Edmunds for attending so promptly to my sent specimen and Dr.Michael von Tschirnhaus for confirming the identification and for his further helpful comments.

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Beautiful Snout *Hypena crassalis* (Fabr.) new to Scotland and Southern Wainscot *Mythimna straminea* (Tr.) new to Central Scotland (Lep.: Noctuidae)

In April 2013, David Smith, an inexperienced moth enthusiast, informed the author that on 27 May, 2012 he had found a Beautiful Snout *Hypena crassalis* on the north bank of The Narrows between the two parts of Loch Ard, near Aberfoyle in the Trossachs (O.S. grid reference NN 486015, VC 87). His claim was supported by an excellent, dated photograph (Plate1) and clear recollection of the site of discovery. The site was closed woodland of mainly oak *Quercus* sp. with considerable Bilberry *Vaccinium myrtillus*, the foodplant of Beautiful Snout, in the understory.

The Beautiful Snout had not been previously recorded in Scotland. Its distribution in the UK is mainly southern England, through Wales and in western England as far north as Cumbria (Heath, J. and Emmet, A. M., 1983. *The Moths and Butterflies of Great Britain and Ireland*, volume 10). Nevertheless, the species does appear to be becoming more widespread in the north of its range (2010, Hill, L., Randle, Z. Fox, R. and Parsons M., 2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation, Dorset). It was new to Lancashire in 2001, was not recorded there for a second time until 2007, but is now known from nine separate locations in the county (Steve Palmer, personal communication). It was first recorded in Northumberland in 2010 (Tom Tams, personal communication).

Given the considerable distance that the Trossachs record was from the known distribution of the species, it appeared prudent to delay reporting its discovery in central Scotland until its presence as a resident could be confirmed. Thus, from early June 2013, Arthur and Jane Jones, initially accompanied by the author, ran UV light traps at the site of the 2012 record. Early attempts failed, but Arthur and Jane persisted and on 21 June they caught six Beautiful Snout on the opposite bank of the Narrows of Loch Ard. On 7 July, they caught another in their garden above the eastern end of the loch.

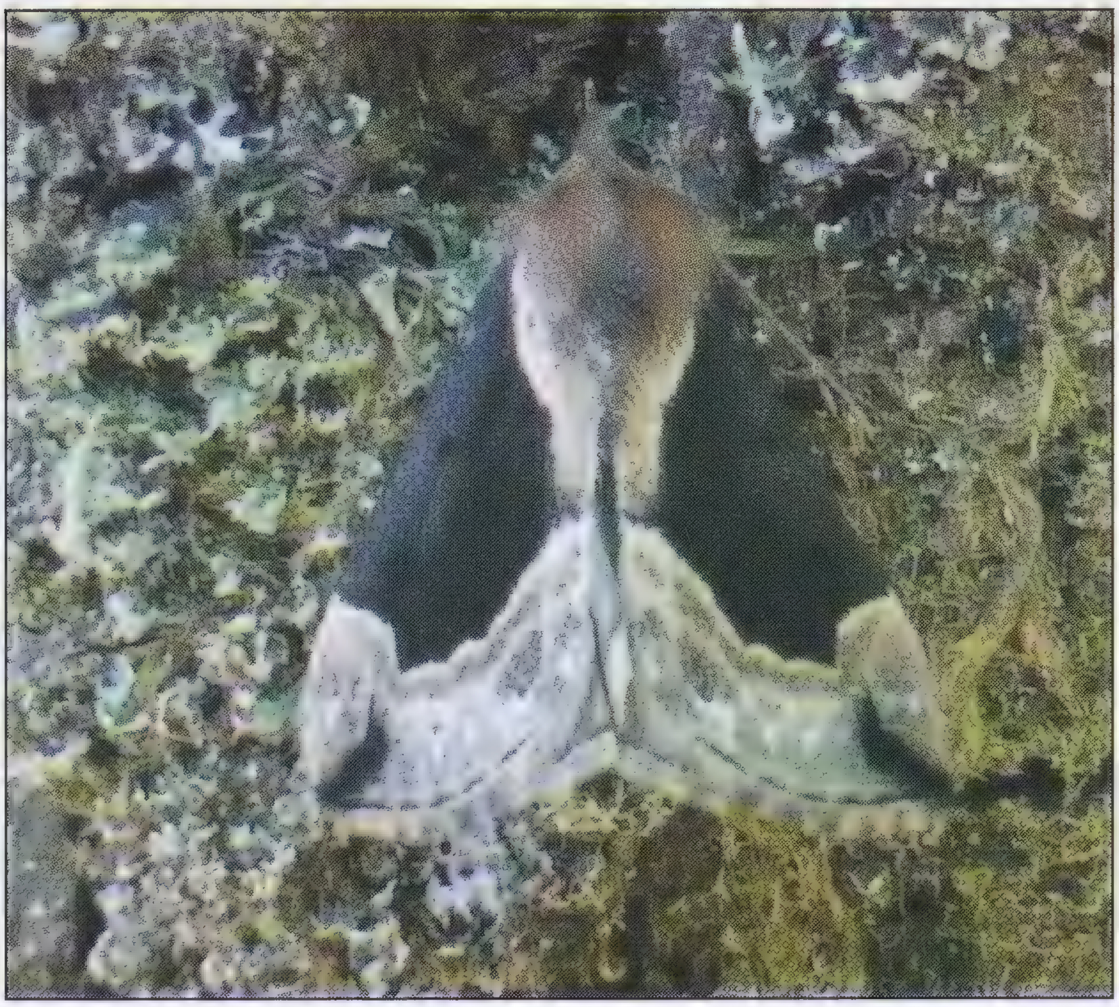

Plate 1. *Hypena crassalis* (Fabr.) Beautiful Snout, Loch Ard, 27 May, 2012. © David Smith

It is clear that the Beautiful Snout has established itself in at least one area of the Trossachs, but it remains to be seen how widely it has spread. A Rothamsted light trap is run daily at Rowardennan on the eastern shore of Loch Lomond, 13 km from the Narrows of Loch Ard. It is also in oak woodland with a bilberry-rich under-story and is the only known location in central Scotland for the Bilberry Pug *Pasiphila debilata* (Hb.). So far it has produced no records of Beautiful Snout.

The Beautiful Snout adds to a substantial list of moth species that have moved north into central Scotland perhaps in response to climatic change. Since 2000 they have included Red-necked Footman *Atolmis rubricollis* (L.), Slender Brindle *Apamea scolopacina* (Esper) the attractive micro *Ypsolopha sequella* (Clerck), Alder Moth *Acronicta alni* (L.), Copper Underwing *Amphipyra pyramidea* (L.), Oak-tree Pug *Eupithecia dodoneata* (Guenée), Pale Pinion *Lithophane hepatica* (Clerck), Buff Footman *Eilema depressa* (Esper) and perhaps Lesser Treble-bar *Aplocera plagiata* (L.) although this species may have been previously overlooked. To this list must be added the most recent find.

On 13 July 2013, David Bryant caught three Southern Wainscot *Mythimna straminea* (Tr.) at Kennet Pans on the estuary of the River Forth. This species is also on the move. It has recently expanded its range in northern England, but the only other Scottish records come from the Solway Firth where it was probably first recorded in 1996 and has since been caught at multiple sites along the northern shore.

The extent and speed of the spread of Red-necked Footman, Slender Brindle, Pale Pinion and Buff Footman was dramatic and has been documented (Knowler, J. T. and Mitchell, J., 2004, *The Glasgow Naturalist*, **24**(2): 142-143; Knowler, J. T., 2005, *The Glasgow Naturalist*, **24**(3): 64; Leverton, R. and Palmer, S., 2009, *Entomologists Rec. J. Var* **121**: 129-133; Knowler, J. T., 2011, *Entomologists Rec. J. Var.* **123**: 220-221). Clearly the Southern Wainscot is also spreading rapidly and the Beautiful Snout appears to have arrived in central Scotland without having been recorded in southern Scotland.

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Devon Carpet *Lampropteryx otregiata* (Metcalfe) (Lep.: Geometridae) new to Scotland

On 27 August 2013, a wildlife recording day was organised by the local records centre for Dumfries & Galloway, with a Robinson pattern MV trap and two Heath actinic traps set the previous night at Glassoch, Wigtownshire (VC 74). On the opening of the Robinson trap, an usual geometrid was found and reference to Waring, Townsend & Lewington (2003. *Field Guide to the Moths of Great Britain and Ireland.* British Wildlife Publishing) suggested Devon Carpet *Lampropteryx otregiata*. Of course, the

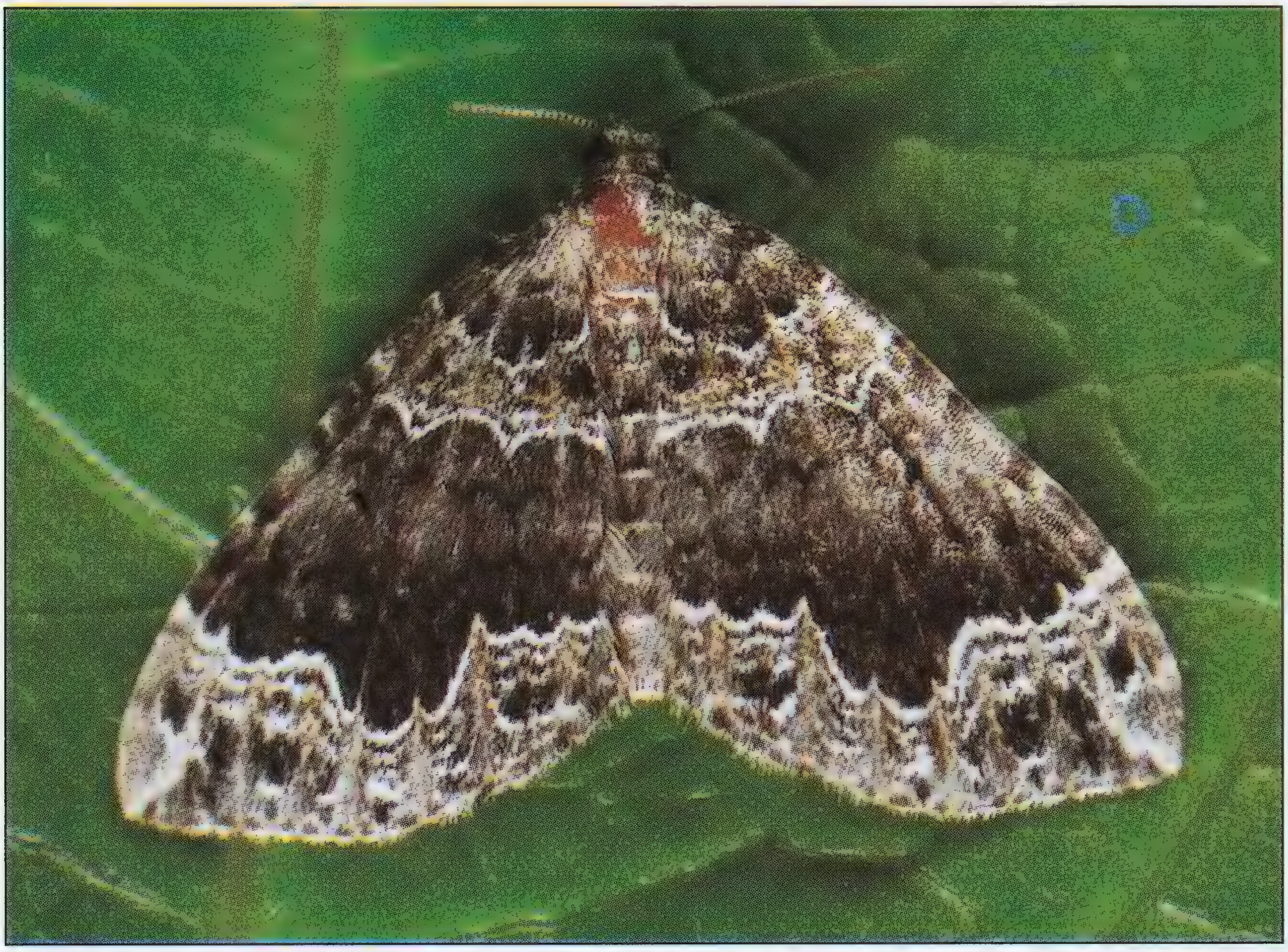

Plate 1. Devon Carpet *Lampropteryx otregiata* (Metcalfe), Glassoch, Wigtownshire, 26.viii.2013, K. Naylor.

party of nine people were aware that this would be a new species for the region; apart from a few scattered records in Lancashire all of the British records lie in England and Wales south of a line between the Mersey and The Wash, with a single locality on the Isle of Man (see Hill, *et al*, 2010. *Provisional atlas of the UK's larger moths*. Butterfly Conservation, Dorset).

Upon opening the two Heath traps a further four examples were found. Specimens were retained and later a photograph taken and e-mailed to Roy Leverton, who is the keeper of the Scottish macro-moth list; he confirmed it as the first Scottish record. An earlier record from Arran has been dismissed; he probably a misidentification. One of the specimens will be donated to the National Museums of Scotland.

The recording day, organised as part of the local wildlife site program, confirmed the presence of the moth's foodplant Marsh Bedstraw *Galium palustre* in the ditches around the site, which comprises a mosaic of mire, wood pasture, ancient woodland and unimproved/semi-improved grassland. The foodplant is quite widely distributed in Dumfries and Galloway and there is potential for this species to occur at other sites in the region.

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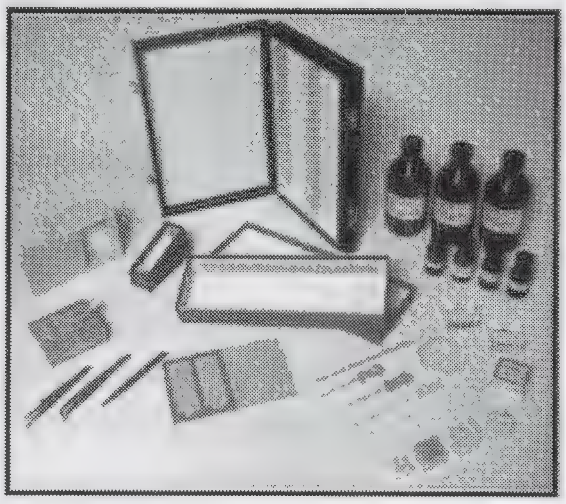

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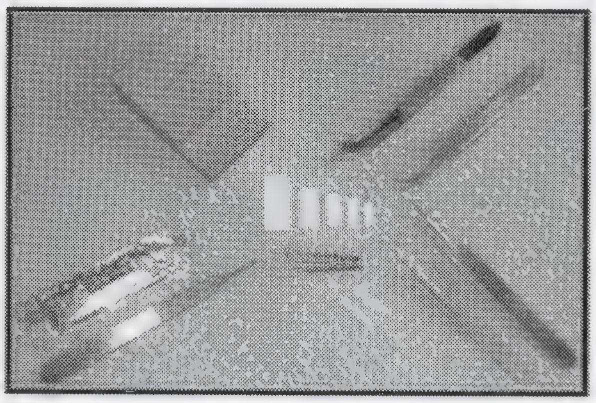

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Printed in England by
Cravitz Printing Company Limited, 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277 224610

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omologist's Record

and Journal of Variation

olume 125 • Part 6 November/December 2013

Edited by C. W. Plant

w.entrecord.com

A publication of The Amateur
Entomologists' Society

THE ENTOMOLOGIST'S RECORD

AND JOURNAL OF VARIATION

World List abbreviation: *Entomologist's Rec. J. Var.*

http://www.entrecord.com

Published by the Amateur Entomologists' Society
UK Registered Charity number 2674302

Annual subscription for individual subscribers for 2013 is £25.
For institutional and overseas rates please visit the website at www.entrecord.com

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Front cover image of *Hecatera dysodea* (D.& S.), Noctuidae, from photograph © by Colin W. Plant

MICROLEPIDOPTERA REVIEW OF 2012

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Abstract

Noteworthy records of microlepidoptera collected during 2012 are summarised, including three species new to the British Isles and numerous new vice-county records.

Keywords. microlepidoptera; British Isles, review.

Introduction

The weather of the last few years has been regarded as rather poor for moths generally but 2012 was, without doubt, the worst of all, unless you were lucky enough to be living in north-west Scotland! The main summer and autumn periods were disappointingly cooler and wetter than usual.

Despite these general comments, the year began rather warmer than the long-term average, except for a brief cold spell in early February, and this was particularly marked in western Britain. Rainfall was above average in western Scotland and parts of north-west England but most of Britain was very much drier than expected. It remained rather mild until late March, but then April and early May were distinctly colder than usual before a brief return to normal temperatures in late May. Spring was very dry in western areas but very much wetter than expected in southern and eastern England and south-eastern Scotland. Overall, April was the wettest on record for Britain as a whole!

There followed a miserably wet and cool summer. Both June and July were cooler than in any year since 1998 and 2000 respectively though August was back to normal temperatures. The main feature of the weather was the rainfall. It was the wettest June since 1860 and July and August also had at least 150% of the long-term average. The combination of cool and wet weather, with predictably low sunshine hours, made it the worst summer for insects for very many years. In contrast, north-west Scotland was generally as warm as usual and at the same time very clearly drier and sunnier than expected.

This dreary summer was followed by an autumn that was also below average temperature in each of September, October and November. The wet conditions continued throughout all of Britain except for Scotland north of the central belt, which was distinctly drier than expected. Overall, despite some early moth appearances in March, the moth seasons were much later than usual, and moth numbers and species richness were well below what could be expected. It says a lot for the industry and enthusiasm of micro-moth recorders that we can include so many new records here.

Phyllocnistis citrella Stainton is an adventive species new to Britain that has been imported with citrus fruit trees, the leaves and fruit of which it mines. Mines and cocoons were found at a garden centre at Burford in Oxfordshire and moths then bred successfully. Emerged cocoons and mines were also found in similar circumstances at St Neots, Huntingdonshire. Whether the species will be able to survive on its own in Britain is not yet clear. Also unclear is the origin of the specimen of *Schiffermuelleria schaefferella* (Linnaeus) that was found at Petersham in Surrey at MV light. Perhaps it is a stray, maybe brought in with wood products, or an over-looked resident. The same doubt surrounds the finding of a specimen of the pyralid *Pyrausta aerealis* (Hübner) at Dibgate Quarry in Kent. The species is a European inhabitant of flowery meadows, but it is not known to disperse widely and so its appearance in Kent is a puzzle.

New to Scotland was *Coleophora deauratella* (Herrich- Schäffer), which had probably been a long-term resident in Renfrew, and was found during a training course for identifying micros. This is the first published record of the species in Scotland, although it has since been discovered that it had been seen on Skye in the 1990s. The two species found new to Ireland are also likely to be overlooked residents rather than new arrivals. These are *Coleophora trifolii* (Curtis) found at Dunkettle and *Acrolepiopsis betulella* (Curtis) at Glenarm.

The four new species found in Wales are testament to the benefits of exploring under-recorded areas. Fortunately, for the interest of microlepidopterists, there are still many places in Britain which have never been explored entomologically, and the new records reported here indicate this clearly. Three of the species, namely *Ocnerostoma piniariella* Zeller, *Biselachista serricornis* (Stainton) and *Pammene ochsenheimeriana* (Lienig & Zeller), are likely to be long-term, overlooked residents, whereas *Metalampra italica* Baldizzone is a recent arrival in Britain, now spreading in southern areas.

There were new records of a number of notable species, some of which are new arrivals, now spreading within Britain. The new records of *Caloptilia hemidactylella* ([Denis & Schiffermüller]) are probably the result of immigration from the Low Countries and the species is now apparently spreading in eastern counties up to North Northumberland. *Harpella forficella* (Scopoli) was recorded from two new vice-counties, indicating an extension as a resident following its recent arrival. Now that it is better known and recognised, it has been found that *Cnephasia pumicana* (Zeller) is more widespread than thought. There are new records from four more vice-counties indicating a spread from the former range in south-east England. *Cydia amplana* (Hübner) appeared in large numbers for a very brief period, having been found in seven new vice-counties as far north as North-east Yorkshire.

It is pleasing to note that the established use of Sterling, P., Parsons, M. and Lewington, R. (2012) *Field Guide to the Micro-moths of Great Britain and Ireland,* British Wildlife Publishing, does seem to have generated more interest in microlepidoptera, with new recorders and more activity even during a generally disappointing season. The various websites are also generating many more queries and reports, although, as discussed in previous reviews, this carries the possible problem of erroneous identifications. All of this increased work is keeping up the pressure for the establishment of a full national recording scheme, and the ideas explored for this in 2010 are still being discussed. Resources are the main limitation, of course, and so far none have been found for an overall scheme. However, Butterfly Conservation is actively seeking funds for what must be a first step, namely the digitisation of the existing paper-based distribution maps together with the information associated with each vice-county occurence. Currently this information is on the back of each map, either hand-written or referred to as being published in one of our annual Microlepidoptera Reviews. Perhaps readers will recall that the Scottish vice-county records have already been digitised, and then used as the basis for maps for every Scottish species. These maps are displayed for all of Scotland on the East Scotland web-page of Butterfly Conservation. It is the much greater task, to achieve the same for the whole of Britain, that is currently being considered for funding.

Until the publication of the new checklist, now in the last stages of production, we have continued to use J.D. Bradley's (2000, 2nd edn revised) *Checklist of Lepidoptera recorded from the British Isles* as the basis for the nomenclature and family order used here, plus a small number of published corrections and additions to this checklist. This is so that current and future readers can be sure which species are being referred to, by reference to Bradley's list. Please note that Sterling, Parsons and Lewington's book already uses the new nomenclature, but it is possible to compare the names easily, by reference to the checklist included in their book.

Please may we now ask for many more records from 2013, arranged in our standard format and with a national grid reference, and the easiest way for us to receive these is as a **WORD file** to **JRL**. **Please do not submit records in spreadsheets**, as these then require extensive editing and re-typing, adding enormously to the task of preparing the review. Thank you to so many enthusiasts, whose records make this such an extensive and important contribution, and especially to Ian Thirlwell for help with the tedious task of checking and collating the new records.

The 2012 records have come from the following recorders, each indicated in the text by his or her initials. Other recorders are named in full. R. Austin, M.V. Albertini, T.J. Barker, H.E. Beaumont, S.D. Beavan, I.C. Beavis, K.P. Bland, A.G. Blunt, K.G.M. Bond, P. Bowyer, M.J. Bradley, T. Bryant, P.J. Clarke, V.F. Clarke, J. Clifton, G.A. Collins, M.F.V. Corley, D.W.W. Davidson, A.M. Davis, B. Dickerson, C.H. Fletcher, T.H. Freed, D.J. Gibbs, A.N. Graham, P.R. Hall, M.C. Harvey, R.J. Heckford, G. Hedges, B.P. Henwood, S.H. Hind, R. Homan, M.R. Honey, S.A. Knill-Jones, J.R. Langmaid, A.D. Lewis, N.R. Lowe, J. McLean, J.A. McGill, D.V. Manning, G.H.J. Meredith, K.A. Naylor, E. O'Donnell, S.M. Palmer, M.S. Parsons, C.W. Plant, J. Porter, C.R. Pratt, A.W. Prichard, K.W. Regan, S.A. Rolls, A.P. Russell, T. Sexton, A.N.B. Simpson, D.J. Slade, E.G. Smith, M.H. Smith, E. Still, T.J. Tams, G.M. Tordoff, J.R. Wheeler, P.R. Williams, J.E. Young and M.R. Young.

New vice-county records are shown with the VC number both underlined and in **bold** type. Journals are abbreviated as follows: *Ent. Rec.* for *Entomologist's Record and Journal of Variation*; *Ent. Gaz.* for *Entomologists' Gazette*; *BJENH* for *British Journal of Entomology and Natural History*; and *Atropos* is named in full. RIS refers to the Rothamsted Insect Survey, VCH to Victoria County History and SEM for the Scottish Entomologists' Meeting.

SYSTEMATIC LIST

MICROPTERIGIDAE

3 *Micropterix aureatella* (Scop.) — Pengelli Forest NNR (Pant-teg) SN12353960 (**45**) 14.v.2012 — R. Taylor *per* ADL; Ballyscanlan S546024 (**H6**) 11.v.2012 — TB

5 *M. calthella* (Linn.) — Logie Bridge, Findhorn NH959461 (**96**) 5.vi.2012 — M. Taylor *per* MRY; Ballyscanlan S539029 (**H6**) 12.v.2012 — TB

ERIOCRANIIDAE

6 *Eriocrania subpurpurella* (Haw.) — Lochdon, Mull NM296389 (**103**) 8.iv.2012 det. A.M. Davis — A. Kirkham *per* MRY

8 *E. unimaculella* (Zett.) — Pengelly Forest SN1339 (**45**) tenanted mines on *Betula pubescens* 14.v.2012 — R. Taylor; Gosforth Park NR (**67**) tenanted mines on *Betula* sp. 20.v.2012 — TJT, *Ent. Rec.* **124**: 163-164; Ballyscanlan S538028 (**H6**) tenanted mine on *Betula* sp. 9.vi.2012 — TB; Cappaghnahannagh R708583 **(H8)** 15.iv.2012, genitalia det. — KGMB

9 *E. sparrmannella* (Bosc.) — Harthope Valley NT964236 (**68**) tenanted mines on *Betula* sp. 1.vii.2012 — TJT

10 *E. salopiella* (Staint.) — Glengarriff Wood V907578 (**H3**) tenanted mines on *Betula pubescens* 19.v.2012 — KGMB

11 *E. cicatricella* (Zett.) — Longhorsley Moor NZ163927 (**67**) tenanted mines on *Betula* sp. 29.v.2012 — TJT; Ballyscanlan S538028 (**H6**) tenanted mine on *Betula* sp. 21.v.2012 — TB

12 *E. sangii* (Wood) — Curraghbinny Wood W792621 (**H4**) tenanted mines on *Betula pubescens* 6.v.2012 — KGMB

13 *E. semipurpurella* (Steph.) — Mossdale – Loch Skerrow, disused railway NX6369 (**73**) mines on *Betula* sp. 30.v.2012 — K. McCabe *per* KAN; Ballyscanlan S538028 (**H6**) tenanted mine on *Betula* sp. 11.v.2012 — TB

NEPTICULIDAE

21 *Ectoedemia sericopeza* (Zell.) — University Parks, Oxford SP5107 (**23**) tenanted mines in samaras of *Acer platanoides* 19.vii.2012, moths bred — RH; Victoria Park, Leicester SK5903 (**55**) mines in samaras of *Acer platanoides* 17.vii.2012 — RH *per* APR

22 *E. louisella* (Sirc.) — Hartsgreen, Romsley SO792833 (**40**) mine in samara of *Acer campestre* 26.vii.2011 — AGB

23 *E. argyropeza* (Zell.) — Crom Estate H357244 (**H33**) tenanted mines on *Populus tremula* 23.x.2012 — KGMB

28 *E. angulifasciella* (Staint.) — Crom Estate H357244 (**H33**) tenanted and vacated mines on *Rosa* sp. 23.x.2012 — KGMB

30 *E. arcuatella* (H. - S.) — Heyshott Down SU8916 (13) tenanted mines on *Fragaria vesca* 30.ix.2012, first VC record since 1890s — AMD

35 *E. minimella* (Zett.) — Loch of Park NO7699 (**91**) tenanted mine on *Betula* sp. 6.x.2012 — SMP, JEY, MRY & JRL; Mullaghakaraun Bog N041143 (**H18**) vacated mines on *Betula pubescens* 24.x.2012 — KGMB

36a *E. heringella* (Mariani) — Burnham SU9382 3.i.2012 (**24**) many vacated mines on *Quercus ilex* —MVA; Blakeney TG0243 (**27**) vacated mines on *Quercus ilex* 24.iii.2012 — L. Gregory *per* JRW; Cheltenham SO92 (**33**) vacated mines on *Quercus ilex* found in seven different 1 km squares in the town 18.v.2012 — RH; Leicester SK602030 (**55**) vacated mines on *Quercus ilex* 16.ix.2012 — A.M. & M.G. Banthorpe *per* APR

37 *E. albifasciella* (Hein.) — Glengarriff Wood V907578 (**H3**) 19.v.2012 — EO'D *per* KGMB; Crom Estate (Inisherk) H355240 (**H33**) vacated mines on *Quercus petraea* 23.x.2012 — KGMB

38 *E. subbimaculella* (Haw.) — Sanquhar Woods, Forres NJ040580 (**95**) vacated mine on *Quercus* sp. 23.ix.2012, det. MRY — J. Hammond *per* MRY

39 *E. heringi* (Toll) — Ballyscanlan S543029 (**H6**) vacated mine on *Quercus* sp.16.ix.2011, conf. JRL from photograph — TB

44 *Trifurcula headleyella* (Staint.) — BC Rough Bank NR SO9008 (**33**) 4.vi.2012 & 10.vi.2012, males genitalia det. — GHJM

46 *T. immundella* (Zell.) — Glengarriff Wood V907578 (**H3**) mine on *Cytisus scoparius* 19.v.2012 — KGMB; Dundullerick East W818830 (**H5**) mine on *Cytisus scoparius* 21.iii.2012 — KGMB; Oghill N366947 (**H30**) mine on *Cytisus scoparius* 24.x.2012 — KGMB

54a *Stigmella pretiosa* (Hein.) — Midgehope Marsh, Ettrick NT2714 (**79**) mines on *Geum rivale* 24.ix 2011 — KPB; Woodhall Dene NT6873 (**82**) vacated mines on *Geum rivale* 25.xi 2011 — KPB

59 *S. poterii* (Staint.) — Knocknaskagh Nagles Mts W699953 (**H5**) tenanted mines on *Potentilla erecta* 15.ix.2012 — KGMB; Griston Bog R757233 (**H8**) vacated mines on *Potentilla erecta* 29.ix.2012 — KGMB

65 *S. speciosa* (Frey) — Forcett NZ1712 (**65**) vacated mine on *Acer pseudoplatanus* 1.xi.2012 — CHF; Arnside SD4578 (**69**) 7.vii.2012, vacated leaf mines on sycamore *Acer pseudoplatanus* — RH *per* ES

66 *S. sorbi* (Staint.) — Skipwith Common SE6437 (**61**) vacated mines on *Sorbus aucuparia* 13.vii.2012 — CHF; Freaghdoo H519855 (**H36**) mine on *Sorbus aucuparia* 3.ix.2012 — KGMB

67 *S. plagicolella* (Staint.) — Sanquhar Woods, Forres NJ040580 (**95**) vacated mine on *Prunus spinosa* 23.ix.2012, det. MRY — J. Hammond *per* MRY

70 *S. obliquella* (Hein.) — The Crichton NX9874 (**72**) vacated mines on *Salix viminalis* 27.x.2012 — KPB

74 *S. assimilella* (Zell.) — Rainton Meadows DWT Nature Reserve NZ3248 (**66**) vacated mines on *Populus tremula* 15.x.2012 — TJB

75 *S. floslactella* (Haw.) — Barlby SE6333 (**61**) vacated mines on *Corylus avellana* 13.vii.2012 — CHF

78 *S. incognitella* (H.-S.) — Middletown SJ305121 (**47**), vacated mine on *Malus* sp. 2.x.2012, det. PRW — D. Boyes *per* PRW

80 *S. ulmivora* (Fol.) — Hilton SO774953 (**40**) mine on *Ulmus procera* 16.viii.2011 — AGB; Lurgan Park (**H37**) mine on *Ulmus* sp. 28.x.2012, det. D. Grundy from photograph — K. Stewart *per* JMcC

83 *S. atricapitella* (Haw.) — Ballintlea South R650123 (**H5**) vacated mine on *Quercus robur* sapling 22.x.2012 — KGMB

84 *S. ruficapitella* (Haw.) — Loch of Park NO7699 (**91**) tenanted mines on *Quercus robur* 6.x.2012 — SMP, JEY, MRY & JRL

85 *S. suberivora* (Staint.) — Leicester SK602030 (**55**) vacated mine on *Quercus ilex* 4.xi.2012 — APR

90 *S. tiliae* (Frey) — Kew Gardens TQ178765 (**17**) many mines, one with larva, on *Tilia cordata* and *T. cordata* X *platyphyllos* 18.x.2012 — GAC & C.W. Stanworth

92 *S. anomalella* (Goeze) — Skipwith Common SE6437 (**61**) vacated mines on *Rosa* sp. 13.vii.2012 — CHF; Crom Estate H358243 (**H33**) vacated mine on *Rosa* sp. 23.x.2012 — KGMB

93 *S. centifoliella* (Zell.) — Druridge Bay (**67**) tenanted mines on *Rosa pimpinellifolia* xi.2011, moths bred — A.J. Fairclough *per* TJT, *Ent. Rec.* **124**: 163-164

98 *S. catharticella* (Staint.) — Craggs R299486 (**H8**) vacated mines on *Rhamnus cathartica* 9.x.2012 — KGMB

101 *S. pyri* (Glitz) — Holland Park TQ24777980 (**21**) vacated mines on *Pyrus communis* 22.ix.2012 — THF

104 *S. magdalenae* (Klim.) — Hutton Conyers SE3273 (**65**) vacated mines on *Sorbus aucuparia* 20.ix.2012 — CHF

107 *S. regiella* (H-S.) — Boscobel SJ837082 (**40**) vacated mine on *Crataegus monogyna* 18.ix.2012 — AGB

108 *S. crataegella* (Klim.) — Bracklesham SZ807974 (13) vacated mine on *Malus domestica* 16.viii.2012, previously unrecorded foodplant — JRL

110 *S. betulicola* (Staint.) — Altnaglander NJ169285 (**94**) vacated mines on *Betula* sp. 4.x.2012 — SMP, MRY & JRL

114 *S. glutinosae* (Staint.) — Ballybay H724207 (**H32**) tenanted mines on *Alnus glutinosa* 8.ix.2012 — KGMB

OPOSTEGIDAE

119 *Opostega salaciella* (Treits.) — South Glendale, South Uist NF791153 (**110**) 4.vii.2012 — J. B. Kemp *per* MRY

TISCHERIIDAE

123 *Tischeria ekebladella* (Bjerk.) — Sanquhar Woods, Forres NJ040580 (**95**) tenanted mine on *Quercus* sp. 23.ix.2012, det. MRY — J. Hammond *per* MRY

INCURVARIIDAE

129 *Incurvaria pectinea* Haw. — Garryarthur R709164 (**H8**) tenanted mines on *Betula pubescens* 17.vi.2012 — KGMB

PRODOXIDAE

133 *Lampronia capitella* (Cl.) — Caston TL9598 (28) larvae on *Ribes nigrum* iv.2012, moths bred, det. B. Elliott, first county record since 19th C. — G. Haggett *per* JRW; Wyre Forest SO727762 & 748763 (37) larval feeding signs in *Ribes rubrum* 4.iv. & 2.v.2012, first county records since 1887 — ANBS

139 *L. pubicornis* (Haw.) — Umbra Nature Reserve C722359 (**H40**) 16.vi.2012, genitalia prep. JMcC, det. from photograph R. Terry — T. Rolston & A. Crory *per* JMcC

ADELIDAE

143 *Nematopogon metaxella* (Hübn.) — Carriganore S554114 (**H6**) 15.vi.2012 — EO'D

HELIOZELIDAE

156 *Heliozela replendella* (Staint.) — Derryvilla cutover bog S217522 (**H7**) mines on *Alnus glutinosa* 20.viii.2012 — KGMB

PSYCHIDAE

176 *Dahlica triquetrella* (Hübn.) — Breydon saltmarsh, Great Yarmouth TG507172 (**27**) two cases on posts 6.vi.2012 — MRY, JEY & JRL

TINEIDAE

199 *Psychoides verhuella* Bru. — Fountains Abbey SE2768 (**64**) larvae on *Asplenium scolopendrium* 28.4.12, moth bred — CHF

200 *P. filicivora* (Meyr.) — Oulton Broad TM5193 (**25**) larvae on *Asplenium scolopendrium* 22.x.2011 — R. Goulding *per* AWP; Great Gransden TL272562 (**31**) 13.xi.2012, genitalia det. BD — M. Davies *per* BD

203 *Infurcitinea argentimaculella* (Staint.) — Hickling Broad TG4222 (**27**) larval tubes in *Lepraria incana* on tree-trunk 8.vi.2012 — MRY, JEY & JRL

216 *Nemapogon cloacella* (Haw.) — Over Courance Lodge, Courance NV051908 (**72**) 4.vi.2012 — B.D. Henderson *per* KAN

221 *N. picarella* (Clerck) — Torriegorrie NH3763 (**106**) 30.vi.2012, det. MRY -- S. Tarr *per* MRY

228 *Monopis weaverella* Scott — Ffynnon Gynydd SO165405 (**43**) 10.vi.2012, female genitalia det. VFC — PJC, VFC

230 *M. crocicapitella* (Clemens) — Hilbre Island SJ1887 (**58**) 20.x.2012 — B. Smart *per* SHH

238 *Niditinea striolella* (Matsumura) — Kelmarsh Estate, Scotland Wood SP7378 (**32**) 15.vi.2011, genitalia det. DVM — J. Skinner *per* DVM

239 *Tinea columbariella* (Wocke) — Cheltenham SO9519 (**33**) 26.vii.2012, female genitalia det. — GHJM

240 *T. pellionella* Linn. — Weydale ND147647 (**109**) 29.vi.2012 — A. McBay *per* MRY

277 *Oinophila v-flava* (Haw.) — Staveley SD4698 (**69**) adults around palms in plant nursery 12.vii.2012, det. JRL from photograph — M. & G. Tordoff *per* ES

BUCCULATRICIDAE

266 *Bucculatrix nigricomella* Zell. — North Ferriby TA0026 (**61**) 17.viii.2012, det. HEB — I. Marshall *per* HEB

267 *B. maritima* Staint. — Dunkettle W741725 (**H5**) cocoons on *Aster tripolium* 27.vii.2012 — KGMB

272 *B. cidarella* Zell. — Rushmere Country Park SP9029 (**24**) vacated mines on *Alnus glutinosa* 13.x.2012 — D.L. Wilton, A. & M. Banthorpe *per* MVA; Cork City (Fitzgeralds Park) W658716 (**H4**) tenanted and vacated mines on *Alnus cordata* 21.x.2012 — KGMB; Coolnakilla W770949 (**H5**) mine on *Myrica gale* 26.viii.2012 — KGMB; Ballydoogan Bog M675179 (**H15**) mine on *Myrica gale* 31.viii.2012 — KGMB; Garry Wood C949307 (**H39**) tenanted mine on *Myrica gale* 5.ix.2012 — KGMB

274 *B. ulmella* Zell. — Sanquhar Woods, Forres NJ040580 (**95**) vacated mine on *Quercus* sp. 23.ix.2012, det. MRY — J. Hammond *per* MRY

276 *B. demaryella* (Dup.) — Tong Rough SJ825090 (**40**) vacated mine on *Castanea sativa* 18.ix.2012 — AGB

GRACILLARIIDAE

282 *Caloptilia elongella* (Linn.) — Derryvilla cutover bog S217522 (**H7**) mines on *Alnus glutinosa* 20.viii.2012 — KGMB; Abbeyfeale Town Park R106255 (**H8**) mines on *Alnus incana* and *A. glutinosa* 23.viii.2012 — KGMB

284 *C. rufipennella* (Hübn.) — Aberystwyth SN6283 (**46**) in RIS trap vii-ix.2012 genitalia det. — PRH

285 *C. azaleella* (Brants) — Shifnal SJ748071 (**40**) 18.viii.2011, also tenanted mine on *Rhododendron* cultivar there on 19.ix.2011 — P.S. Watts *per* AGB; Crickhowell SO2119 (**42**) 18.viii.2012 — S.B. Furber *per* NRL

286 *C. alchimiella* (Scop.) — Ballyscanlan S543029 (**H6**) 13.vi.2012, conf. JRL from photograph — TB

287 *C. robustella* Jäckh — Hartburn NZ4118 (**66**) 1.ix.2012, female genitalia det. JC — A.M. Jones *per* TJB; Ballyscanlan S543029 (**H6**) 24.v.2012, conf. and genitalia det. KGMB — TB

288 *C. stigmatella* (Fab.) — Darnley Mill NS527593 (**76**) larval cones on *Salix cinerea* 7.vii.2012 — MRY; Spey Bay NJ350646 (**94**) larval feeding signs on *Salix* sp. 25.viii.2012 — MRY

291 *C. hemidactylella* ([D. & S.]) — Elms Farm, Icklesham TQ888155 (**14**) 15.v.2012, genitalia det. AMD — I.D. Hunter per AMD; Groton Wood TL9742 (**26**) 13.xi.2012, det. CWP and genitalia conf. JC — B. Sale *per* AWP, *Ent. Rec.* **125**: 12-13; Howick NU258178 (**68**) 31.viii.2012, genitalia det. JC — S. Sexton, *Ent. Rec.* **124**: 231-233

297 *Euspilapteryx auroguttella* (Steph.) — Poulaweala Creek R291524 (**H8**) mines on *Hypericum* sp. 9.x.2012 — KGMB; Poulaweala Creek R291524 (**H8**) leaf-cones on *Hypericum* sp. 9.x.2012 — KGMB

299 *Parectopa ononidis* (Zell.) — Thrapston SP9978 (**32**) 30.vii.2012 — M. Hammond *per* DVM, *Ent. Rec.* **125**: 62; Uppingham SP867995 (**55**) 16.viii.2012 — PHS *per* APR

301 *Parornix betulae* (Staint.) — Cappaghnahannagh R708582 (**H8**) 15.iv.2012, male genitalia det. — KGMB

303 *P. anglicella* (Staint.) — Sanquhar Woods, Forres NJ040580 (**95**) larval feeding signs on *Crataegus monogyna* 23.ix.2012, det. MRY — J. Hammond *per* MRY

304 *P. devoniella* (Staint.) — Barlby SE6333 (**61**) vacated mines on *Corylus avellana* 13.9.2012 — CHF; Allt nan Glander NJ169285 (**94**) larval folds on *Corylus avellana* 4.x.2012 — MRY, SMP & JRL; Coom Bridge W682897 (**H5**) leaf-fold on *Corylus avellana* 6.x.2012 — KGMB; Craggs R297487 (**H8**) mine on *Corylus avellana* 9.x.2012 — KGMB

305 *P. scoticella* (Staint.) — Ballyscanlan S543029 (**H6**) 24.vi.2012 — TB

309 *P. torquillella* (Zell.) — Abbeyfeale Town Park R105255 (**H8**) tenanted mines on *Prunus spinosa* 23.viii.2012 — KGMB

321 *Phyllonorycter messaniella* (Zell.) — Loch of Park NO7699 (**91**) mines on *Fagus sylvatica* 6.x.2012 — SMP, JEY, MRY & JRL; Gight NJ8239 (**93**) mine on *Fagus sylvatica* 21.x.2012 — MRY

321a *P. platani* (Staud.) — Christchurch Meadow, Oxford SP5105 (**23**) mines on *Platanus* sp. 19.vii.2012 — RH *per* MFVC; Newport SJ744193 (**40**) tenanted mines on *Platanus x hispanica* 28.x.2012 — AGB & S.E. Jaggs

323 *P. oxyacanthae* (Frey) — Coom Bridge W682897 (**H5**) mines on *Crataegus monogyna* 6.x.2012 — KGMB

326 *P. blancardella* (Fabr.) — Vyners Park, Swarland NU164037 (**68**) mines on *Malus sylvestris* 20.xi.2011, moths bred — A.J. Fairclough *per* TJT

329 *P. spinicolella* (Zell.) — Craggs R297487 (**H8**) mine on *Prunus spinosa* 9.x.2012 — KGMB

330 *P. cerasicolella* H. - S. — St Martin WV322763 (**113**) in RIS trap 9.ix.2012, genitalia det. — RA

331 *P. lantanella* (Schr.) — Alveley SO761846 (**40**) mines on *Viburnum opulus* 2.viii.2011 — AGB

333 *P. salictella viminiella* (Sirc.) — Hadston Village NU268003 (67) mines on *Salix viminalis* xi.2011, moths bred, first VC record since 1899 — A.J. Fairclough *per* TJT

335 *P. salicicolella* (Sirc.) — Allt na Glander NJ1628 (**94**) mines on *Salix aurita* 4.x.2012, moths bred — MRY, SMP and JRL; near South Glendale, South Uist NF804143 (**110**) 30.vii.2012, confirming previous doubtful record — J. B. Kemp *per* MRY; Little Island W741725 (**H5**) mine on *Salix cinerea* 22.x.2012, larva examined — KGMB; Mullaghakaraun Bog N041143 (**H18**) mines on *Salix aurita* (pupal features checked) 24.x.2012 — KGMB; Oghill N366947 (**H30**) mine on *Salix aurita* 24.x.2012 — KGMB

339 *P. ulicicolella* (Staint.) — Guisborough NZ5916 (**62**) 29.v.2012 — R. Woods *per* HEB

342 *P. coryli* (Nic.) — Wool Mill, Knockando NJ189424 (**95**) mine on *Corylus avellana* 9.ix.2012 — M. Taylor *per* MRY

343 *P. esperella* (Goeze) — Tongwynlais ST142833 (**41**) mines on *Carpinus betulus* 19.x.2012, moth bred — GMT; The Alnwick Garden NU192132 (**68**) mines on *Carpinus betulus* 1.xi.2012 — A.J. Fairclough *per* TJT

344 *P. strigulatella* (L. & Z.) — Castle Howard (**62**) tenanted mines on *Alnus incana* 10.xi.2011, moth bred 8.iii.2012 — CHF; Framwellgate Moor NZ2644 (**66**) 8.ix.2012 — TJB

345 *P. rajella* (Linn.) — Derryvilla cutover bog S217522 (**H7**) mines on *Alnus glutinosa* 20.viii.2012 — KGMB

351 *P. lautella* (Zell.) — Ballyscanlan S543029 (**H6**) mines on sapling *Quercus* sp. 20.x.2012 — TB

359 *P. nicellii* (Staint.) — Coom Bridge W682897 (**H5**) mines on *Corylus avellana* 6.x.2012 — KGMB

363 *P. platanoidella* (Joan.) — Heaton NZ278662 (**67**) mine on *Acer platanoides* 21.x.2012 — CHF *per* TJT

366 *P. sagitella* (Bjerk.) — Burnt Oak Wood TQ988347 (**15**) mines on *Populus tremula* 31.vii.2012, moths bred and genitalia det. — MSP

366b *Phyllocnistis citrella* Staint. — Burford (**23**) tenanted and vacated mines and cocoons on citrus trees in garden centre 8.x.2012, moths bred — RH, *Ent. Rec.* **124**: 279-281, **Adventive species new to the British list**; St Neots TL182604 (**31**) vacated mine and cocoon with pupal exuviae on lemon leaf from local Waitrose 28.xii.2012 — I. & D. Dawson *per* BD

367 *P. saligna* (Zell.) — Bullen Hill Farm ST894579 (**8**) 12.vii.2012 — EGS & MHS

CHOREUTIDAE

387 *Prochoreutis sehestediana* (Fabr.) — Windsor Forest SU9771 (**22**) 6.ix.2012, genitalia det. MCH — D.J. White *per* MCH

388 *P. myllerana* (Fabr.) — Ballyscanlan S539029 (**H6**) 26.viii.2012 — TB

389 *Choreutis pariana* (Clerck) — Westward Ho! SS441291 (**4**) 23.x.2012 — D. Paull *per* RJH

GLYPHIPTERIGIDAE

394 *Glyphipterix forsterella* (Fabr.) — Castle Wood, Caerlaverock Castle NY021652 (**72**) 10.vi.2012 — A. Robertson *per* KAN

YPONOMEUTIDAE

407 *Argyresthia dilectella* Zell. — Withernsea TA3327 (**61**) 20.vii.2012 — M-C. Frost *per* HEB

409a *A. trifasciata* Staud. — Zeal Monachorum SS719039 (**4**) 24.v.2012 one at light — SDB *per* RJH; Brokenstones SO419877 (**40**) 29.v.2012 – H. Davies *per* AGB; Newtown SO104906 (**47**) 1.vi.2012, det. PRW — P. Evans *per* PRW; Sanquhar Road, Forres NJ038585 (**95**) larval feeding signs and adults 8.vi.2012, conf. MRY — J. Hammmond *per* MRY; Cork City (Glasheen) W666712 (**H4**) 15.v.2012 — KGMB

410 *A. brockeella* (Hübn.) — Cultra J424802 (**H38**) 3.viii.2012 — KGMB; Roe Valley Country Park C675209 (**H40**) 13.viii.2012, genitalia det. — KGMB

411 *A. goedartella* (Linn.) — Banagher Glen C674039 (**H40**) 13.viii.2012 — KGMB

416 *A. glaucinella* Zell. — Sharow Mires SE3370 (**64**) 28.vi.2012 — J.C. Warwick *per* CHF; Ballyscanlan S543029 (**H6**) 24.vi.2012 — TB

417 *A. spinosella* Staint. — Boat of Garten NH940184 (**95**) 21.viii.2012, det. MRY — M. Taylor *per* MRY

420 *A. pruniella* (Clerck) — Logie House NH7775 (**106**) 6.vii.2012, det. MRY — N.G.J. Richards *per* MRY; Lochinver NC0823 (**108**) 21.vii.2012 — PRH

424 *Yponomeuta evonymella* (Linn.) — Castledamph H521914 (**H36**) 11.viii.2012 — KGMB

425 *Y. padella* (Linn.) — Kames, Cowal NR974711 (**98**) 24.viii.2012, det. MRY — S. Petty *per* MRY

428 *Y. rorrella* (Hübn.) — Ventnor SZ5477 (**10**) imago to MV 26.vii.2012, det. MJW — F.L. Woodworth *per* MJW; Ventnor Botanic Garden SZ5476 (**10**) 26.vii.2012 — R. Wilson *per* MJW

430 *Y. plumbella* ([D. & S.]) — Middletown SJ305121 (**47**) 28.viii.2012, det. PRW — D. Boyes *per* PRW

435 *Zelleria hepariella* Staint. — Woolpit TL9762 (**26**) 14.iv.2011 — P. Bryant *per* AWP; Swarland NU165035 (**68**) 22.v.2012 — A.J. Fairclough *per* TJT

439 *Swammerdamia compunctella* H. - S. — Craigellachie, Aviemore NH888125 (**95**) 28.vi.2012, det. MRY — M. Taylor *per* MRY

440 *Paraswammerdamia albicapitella* (Scharf.) — Brokenstones SO419877 (**40**) 26.vii.2012 — H. Davies *per* AGB

444 *Ocnerostoma piniariella* Zell. — Trawscoed SH833331 (**48**) 18.viii.2012, genitalia det. — ANG **New to Wales**

445 *O. friesei* Svensson — Lightfoot Green SD513333 (**60**) to MV light 4.viii.2012, genitalia det. — SMP; Tramore S578014 (**H6**) 24.vii.2011, genitalia det. KGMB — TB

449b *Prays peregrina* Agassiz — Ferring-by-Sea TQ0902 (**13**) one male to light 18.x.2012 — THF

449c *P. oleae* (Bernard) — Braintree (**19**) larvae on *Olea europaea* in a Garden Centre 5.v.2012, moths bred — SAR; Wentworth garden centre SK3897 (**63**) mines on *Olea europaea* 8.iv.2012, moth reared — D. Shenton *per* HEB; Killinghall SE2859 (**64**) 26.iv.2012 mines with larvae on *Olea europaea* — CHF

452 *Ypsolopha nemorella* (Linn.) — Ballyscanlan S543029 (**H6**) 5.vii.2012 — TB

456 *Y. horridella* (Treits.) — Middletown SJ305121 (**47**) 20.ix.2012, det. PRW — D. Boyes *per* PRW

460 *Y. parenthesella* (Linn.) — Glenmore River Wood R998004 (**H6**) 20.vii.2012 — KGMB; Gortin Glen H495842 (**H36**) 10.viii.2012 — KGMB; Banagher Glen C674039 & C670046 (**H40**) 13.viii.2012 — KGMB

466 *Rhigognostis senilella* (Zett.) — Ruinsival, Rum NM355943 (**104**) two larvae on *Arabidopsis petraea* 15.v.2012, moths bred, possibly previously unrecorded foodplant – – SDB & RJH

467 *R. annulatella* (Curt.) — Seaton Sluice NZ339767 (67) 17.vii.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT

468 *R. incarnatella* (Steudel) — Eaglesfield NY093282 (**70**) 20.vii.2012, det. GH — D. Porteous *per* GH

471 *Digitivalva perlepidella* (Staint.) — Broadway Quarry SP116368 (**37**) tenanted mine on *Inula conyza* 8.v.2012, moth bred — O. Wadsworth *per* ANBS

472 *D. pulicariae* (Klimesch) — Middletown SJ305121 (**47**) 3.v.2012, det. PRW — D. Boyes *per* PRW; Aghalane H339196 (**H33**) 17.viii.2012, det. B. Elliott —J. Bullock & K. Murphy *per* JMcC

473 *Acrolepiopsis assectella* (Zell.) — Elton SJ453753 (**58**) 16.iii.2012, det. SHH — S.W. Holmes *per* SHH; Crosby SJ325991 (**59**) to MV light 25.vi.2012 — J. Donnelly *per* SMP

474 *A. betulella* (Curtis) — Coombe Bridges NZ060488 (66) at mv light 12.iii.2012, det. JRL from photograph, first county record since 19th C. — TJT & K. Dover; Glenarm D301117 (**H39**) 2.viii.2012, det. JMcC — K. Leonard *per* JMcC, **New to Ireland**

476 *Acrolepia autumnitella* (Haw.) — Middletown SJ305121 (**47**) 25.ii.2012, det. PRW — D. Boyes *per* PRW

470 *Orthotelia sparganella* (Thunb.) — Llangloffan Fen West SM896317 (45) 20.vii.2012, first county record since 1875 — ADL

LYONETIIDAE

256 *Leucoptera spartifoliella* (Hübn.) — Kinloch trail, Rum NM398997 (**104**) several cocoons on *Cytisus scoparius* 11.v.2012 — SDB & RJH; Glennnagear Wood, Killavullen W648985 (**H5**) mine on *Cytisus scoparius* 21.iv.2012 — KGMB

260 *L. malifoliella* (Costa) — Middletown SJ305121 (**47**) vacated mine on *Malus sylvatica* 17.ix.2012, det. PRW — D. Boyes *per* PRW

264 *Bedellia somnulentella* (Zell.) — Shifnal SJ748071 (**40**) 15.vii.2011 — P.S. Watts *per* AGB

COLEOPHORIDAE

491 *Coleophora gryphipennella* (Hübn.) — Poulaweala Creek R291524 (**H8**) mine and case on *Rosa pimpinellifolia* 9.x.2012 — KGMB; White Park Bay D015438 (**H39**) larval case on *Rosa* sp. 4.ix.2012 — KGMB

492 *C. flavipennella* (Dup.) — Welsh Hook, Newton East Woods SM933270 (**45**) i.viii.2012, genitalia det. — R. Taylor *per* ADL; Hutton Conyers SE3273 (**65**) 15.vii.2012, male genitalia det. — CHF

494 *C. coracipennella* (Hübn.) — Middletown SJ305121 (**47**) 22.vii.2012, genitalia det. ANG — D. Boyes *per* PRW; Staveley NR SE3663 (**64**) 23.vii.2012, female genitalia det. CHF — CHF, J.C. Warwick, T.A. Box et al; Hutton Conyers SE3273 (**65**) 22.vii.2012, male genitalia det. — CHF

497 *C. badiipennella* (Dup.) — Casehill Woods ST157727 (**41**) 1.vi.2012, genitalia det. DJS — GMT

502 *C. trigeminella* Fuchs — Ivinghoe Beacon SP9516 (**24**) 5.vii.2012, male genitalia det. PRH — D.L. Wilton *per* MVA

504 *C. lusciniaepennella* (Treit.) — Holystone Common NT941020 (67) cases on *Myrica gale* 27.ix.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT; Ballydoogan Bog M675179 (**H15**) mines on *Myrica gale* 31.viii.2012— KGMB; Garry Wood C949307 (**H39**) mines on *Myrica gale* 5.ix.2012 — KGMB

510 *C. juncicolella* (Staint.) — Longhorsley Moor NZ163927 (**67**) cases swept from *Calluna vulgaris* 28.iv.2012 — A.J. Fairclough *per* TJT

513 *C. potentillae* Elisha — Gordon Moss NT6342 (**81**) cases on *Filipendula* sp. 15.ix 2012 — KPB

516 *C. trifolii* (Curtis) — Dunkettle W737722 (**H5**) 17.vii.2012, female genitalia det. — KGMB, **First confirmed Irish record**

517 *C. alcyonipennella* (Kollar) — Middletown SJ305121 (**47**) 19.v.2012, genitalia det. ANG — D. Boyes *per* PRW

517a *C. frischella* (Linn.) — Gait Barrows NNR SD479769 (**60**) to MV light 25.v.2012, female genitalia det. SMP — G. Jones *per* SMP; Howick Hall Gardens NU248175 (**68**) 5.vi.2012, female genitalia det. JC — T. Sexton *per* TJT, *Ent. Rec.* **124**: 163-164

518 *C. mayrella* (Hübn.) — Chapelton Farm NJ050580 (**95**) 14.vi.2012, det. MRY — J. Hammond *per* MRY

519 *C. deauratella* (H. - S.) — Dens to Darnley Country Park NS5259 (**76**) 7.vii.2012, male genitalia det. — MRY, **First published Scottish record**, although an earlier unpublished record has now been traced from VC 104

521 *C. conyzae* Zell. — Foxley Wood TG0522 (**27**) cases on *Pulicaria dysenterica* 7.vi.2012 — MRY, JEY & JRL

522 *C. lineolea* (Haw.) — Hutton Conyers SE3273 (**65**) 1.vii.2012, male genitalia det. — CHF

526 *C. laricella* (Hübn.) — Ballyscanlan S546024 (**H6**) cases on *Larix decidua* 27.iv.2012 — TB

532 *C. albidella* ([D. & S.]) — Middletown SJ305121 (**47**) 22.vii.2012, genitalia det. ANG — D. Boyes *per* PRW

535 *C. ibipennella* Zell. — Glasbury SO180390 (**43**) 24.vii.2012, male genitalia det. VFC — PJC, VFC

536 *C. betulella* (Hein.) — Middletown SJ305121 (**47**) 25.vii.2012, genitalia det. ANG — D. Boyes *per* PRW

547 *C. discordella* Zell. — Barrigone R294507 (**H8**) case on *Lotus corniculatus* 9.x.2012 — KGMB

548 *C. niveicostella* (Zell.) — BC Rough Bank NR SO9008 (33) 3.viii.2012 & 10.viii.2012; Cleeve Common SO9926 (33) 8.viii.2012, males genitalia det., first county records since 1916 — GHJM

553 *C. striatipennella* Nyl. — Over Courance Lodge, Courance NV051908 (**72**) 8.vii.2012 — B.D. Henderson *per* KAN

554 *C. inulae* Wocke — Norton Priory SJ5483 (**58**) 3.vi.2011, male genitalia det. M. Dale — SHH

557 *C. gardesanella* Toll — Radstock Sidings ST6954 (**6**) 12.vii.2012, male genitalia det. — DJG; Eaton Ford TL176604 (**30**) 26.vii.2012, genitalia det. K. Royles — A.A. Lawrence *per* DVM

559 *C. peribenanderi* (Toll) — Middletown SJ305121 (**47**) 24.vii.2012, genitalia det. ANG — D. Boyes *per* PRW

561 *C. therinella* (Tengst.) — BC Rough Bank NR SO9108 (**33**) 26.vii.2012, female genitalia det. — GHJM

563 *C. argentula* (Steph.) — Eston NZ5623 (**62**) 27.vii.2012, genitalia det. — R. Woods *per* HEB; Birling Links, Warkworth NU255064 (**68**) cases on *Achillea millefolium* 28.ii.2012 — A.J. Fairclough *per* TJT

565 *C. saxicolella* (Dup.) — Clandeboye Tree Nursery J484779 (**H38**) 21.vii.2012, genitalia prep. JMcC, det. from photograph P. Clement — JMcC

566 *C. sternipennella* (Zett.) — Staveley NR SE3663 (**64**) 23.vii.2012, female genitalia det. CHF. — CHF, J.C. Warwick, T.A. Box *et al.*

568 *C. versurella* (Zell.) — Charlton Kings Common SO 9618 (**33**) 6.viii.2012, male genitalia det. — GHJM; Traethdy, Harlech SH574301 (**48**) 24.vii.2012, genitalia det. — H. Bantock *per* ANG; Monkseaton NZ338723 (**67**) 7.vii.2012, male genitalia det. TJT, conf. B. Goodey — M.S. Hodgson *per* TJT; Howick NU258178 (**68**) 7.vii.2012, male genitalia det. TJT — S. Sexton *per* TJT

569 *C. squamosella* Staint. — Calvert SP6825 (**24**) 22.vii.2012, female genitalia det. PRH — D.L. Wilton *per* MVA

573 *C. atriplicis* Meyr. — Murlough J414352 (**H38**) case on *Atriplex portulacoides* 7.x.2012, det. B. Elliott — A. Crory & E. McGuiggan *per* JMcC

582 *C. glaucicolella* Wood — Turf Law, Soutra NT4756 (**81**) 30.vii.2011, genitalia det. — KPB

587 *C. caespititiella* Zell. — Darren Wood, Llanstephan SO114430 (**43**) 13.vi.2012, female genitalia det. PJC — PJC, VFC

ELACHISTIDAE

594 *Elachista gleichenella* (Fabr.) — Ulverscroft N.R. SK487130 (**55**) 18.v.2012 — D.W. Nicholls *per* APR

595 *E. biatomella* (Staint.) — Llanymynech Rocks Nature Reserve SJ267219 (**47**) 10.viii.2012, genitalia det. M.J. Dale — D.A. Grundy *per* PRW

596 *E. poae* Staint. — Baildon SE1639 (**64**) tenanted mines on *Glyceria maxima*, moth reared v.2012 — D. Parkinson *per* HEB

597 *E. atricomella* Staint. — Baronscourt Forest H365833 (**H36**) 11.viii.2012, male genitalia det.— KGMB; Caulhame C882151 (**H40**) 14.viii.2012 — KGMB

601 *E. albifrontella* (Hübn.) — Nantmel Tip SO020659 (**43**) 22.vi.2012, male genitalia det. PJC — S. Jones *per* PJC & VFC

608 *E. rufocinerea* (Haw.) — Swarland NU165035 (68) 22.v.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT

609 *E. maculicerusella* Bru. — Black Burn, Gladhouse NT3054 (**83**), larvae 28.viii 2011, moths bred — KPB

610 *E. argentella* (Clerck) — Killimster ND314568 (**109**) 14.vii.2012 — P. Miller *per* MRY

613 *E. subocellea* (Steph.) — Claverton Down ST785638 (**6**) 26.vi.2012, genitalia det. EGS — R. Pooley *per* EGS & MHS

621 *E. subalbidella* Schläg. — Wem Moss SJ4734 (**40**) 28.v.2012, male genitalia det. A. Graham — D. Grundy *per* AGB; Longhorsley Moor NZ163927 (**67**) 27.v.2012 — KWR & J. Fisher

623 *E. bisulcella* (Dup.) — Glenarm D301117 (**H39**) 9.viii.2012, genitalia det. JMcC — K. Leonard *per* JMcC

626 *Biselachista serricornis* (Staint.) — Flitwick Moor TL0435 (**30**) 4.vi.2012, genitalia det. DVM — A. Outen *per* DVM; Trerhos Common SM924 272 (**45**) 28.vii.2012 — R. Taylor *per* ADL, **New to Wales**

628 *B. eleochariella* (Staint.) — Thorne Moors SE7106 (**63**) 25.vii.2012 genitalia det. — HEB; Duartmore Burn NC178370 (**108**) larvae mining leaves of *Carex panicea* 8.v.2012, moths bred, genitalia det. RJH; Harris, Rum NM3495 (104) larvae mining leaves of *Carex panicea* 15.v.2012, moth bred, genitalia det. RJH, previously unrecorded foodplant — SDB & RJH

630 *B. albidella* (Nyl.) — Wardlaw Wood NS2552 (**75**) early viii.2012, det. KPB — A. Huff *per* KPB

OECOPHORIDAE

634a *Schiffermuelleria schaefferella* (Linn.) — Petersham, Richmond TQ1772 (**17**) adult at mv light 25.v.2012, det. M.R. Honey — T. Howard *per* JP, **New to the British Isles**

635 *Denisia subaquilea* (Staint.) — Rough Knowe NT366262 (**79**) 3.vi.2011, det. RJH from photograph — M. Lindsay *per* MRY

638a *D. albimaculea* (Haw.) — Gloucester SO8317 (**33**) 25.v.2012 — P. Zaltowski *per* RH

637 *Crassa tinctella* ((Hübn.) — Kelmarsh Estate, Sunderland Wood SP7579 (32) 26.v.2012, genitalia det. DVM, first VC record since 1906 — J. Skinner *per* DVM

640 *Batia lunaris* (Haw.) — Middletown SJ305121 (**47**) 22.vii.2012, det. PRW — D. Boyes *per* PRW

641 *B. lambdella* (Don.) — Cape Clear V954215 (**H3**) 5.vii.2012 — EO'D

642a *Metalampra italica* Baldizzone — Mountfield TQ743202 (**14**) 18.viii.2012 — R. Harris *per* CRP; Wash Common SU4564 (**22**) 9.ix.2012, genitalia det. PRH — N. Asher *per* MCH; Glasbury SO180390 (**43**) 31.vii.2012, conf. JRL from photograph — PJC, VFC, **New to Wales**

644 *Borkhausenia fuscescens* (Haw.) — Belfast (Fortwilliam) J338778 (**H39**) 2.viii.2012, genitalia det. — KGMB

652a *Harpella forficella* (Scop.) — nr Ardingly TQ35432970 (**14**) 27.vii.2012 — D. & P. Green *per* CRP; The Outwoods SK5115 (**55**) 18.viii.2012 — R. Faulkner *per* APR

654 *Pleurota bicostella* (Clerck) — Commins Coch SH845028 (**47**) 30.v.2012, det. RJH — PRW

656 *Tachystola acroxantha* (Meyr.) — Broseley SJ673026 (**40**) found dead indoors 9.vii.2012 — A. Jacques *per* AGB

660 *Pseudatemelia josephinae* Toll — Worsell Wood SO258575 (**43**) in spider's web 27.vi.2012, male genitalia det. VFC — PJC, VFC

661 *P. flavifrontella* ([D. & S.]) — Longdon, Wyre Forest SO750771 (**40**) 19.v.2012 — ANBS; Brynyrhydd Common SO188412 (**43**) netted 30.v.2012, male genitalia det. PJC — PJC, VFC

663 *Diurnea fagella* ([D. & S.]) — Glenstockadale, Leswalt NX001611 (**74**) 13.iii.2012 — V. Harrison *per* KAN

664 *D. lipsiella* ([D. & S.]) — Crom, H3524 (**H33**) 2.ix.2012, det. KGMB — K. Murphy *per* KGMB

668 *Luquetia lobella* ([D. & S.]) — Cheltenham SO9424 (**33**) at actinic light 28.vi.2012 — RH

671 *Depressaria ultimella* Staint. — Murlough J412351 (**H38**) 25.v.2012 genitalia, det. JMcC — T. Rolston *per* JMcC

674 *D. badiella* (Hübn.) — Cardryne NX114316 (**74**) 7.ix.2012 — R. & B. Mearns *per* KAN; Slieve Gullion J025187 (**H37**) 8.ix.2012, male genitalia det. — KGMB

676 *D. pulcherrimella* Staint. — Killard J608434 (**H38**) 8.viii.2012, genitalia det. JMcC — JMcC & T. Rolston

701 *Agonopterix ocellana* (Fab.) — Glenkinnon Lodge NT436350 (**79**) 28.v.2012, conf. MRY from photograph — M. Lindsay *per* MRY

702 *A. assimilella* (Treits.) — Minswear Woods SN05601353 (45) larva between spun stems of *Cytisus scoparius* 31.i.2012, first county record since 1875 — R. Taylor *per* ADL; Kinloch trail, Rum NM398997 (**104**) one larva and many empty spinnings on *Cytisus scoparius* 11.v.2012 — SDB & RJH

706 *A. nervosa* (Haw.) — Carrowmeanagh C837037 (**H40**) 14.viii.2012 — KGMB

ETHMIIDAE

719 *Ethmia quadrillella* (Goeze) — Colyford SY237928 (**3**) 17.viii.2012, det. BPH from photograph — P. Vernon *per* BPH; Walberton SU9705 (**13**) 12 & 17.viii.2012 — J.T. Radford *per* CRP

722 *E. pyrausta* (Pallas) — Ben Griam Mor NC796391 (107) 9.v.2012, det. ANBS first VC record since 1853 — P. & G. Matthews *per* ANBS

GELECHIIDAE

724 *Metzneria lappella* (Linn.) — Prees Heath SJ5536 (**40**) 22.vi.2012, male genitalia det. ANG — D. Grundy & A. Jacques *per* AGB

726 *M. metzneriella* (Staint.) — Dornockbrow NY238652 (**72**) 27.vi.2012 — B. Hammond *per* KAN Killard J608434 (**H38**) 29.v.2012, det. KGMB — JMcC

727a *M. aprilella* (H.-S.) — Ivinghoe Beacon SP9516 (**24**) 27.vi.2012, two males genitalia det. PRH — D.L. Wilton *per* MVA

730 *Apodia bifractella* (Dup.) — Warsop Main Pit Top SK545685 (**56**) 12.viii.2012 — T. & D. Pendleton *per* SMP

731 *Eulamprotes atrella* ([D. & S.]) — Middletown SJ305121 (**47**) 10.viii.2012, det. PRW — D. Boyes *per* PRW; Umbra NR C724358 (**H40**) 21.viii.2012, genitalia det. JMcC — A. Crory, T. Rolston & JMcC

731a *E. immaculatella* Dougl. — Rewell Wood SU9807 (**13**) 10.v.2008, genitalia prep. AMD and det. JRL in 2012 — AMD

732 *E. unicolorella* (Dup.) — Middletown SJ305121 (**47**) 26.v.2012, genitalia det. ANG — D. Boyes *per* PRW

734 *Argolamprotes micella* ([D. & S.]) — Etchingham TQ706258 (**14**) 25.vii. 2012 — C. Moore *per* CRP

735 *Monochroa tenebrella* (Hübn.) — Kyloe Hills NU045393 (68) 19.vi.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT; Ailsa Craig NX0299 (**75**) 30.vi 2011, genitalia det. — KPB; Bhauve Bog, Belmullet F691359 (**H27**) 9.vi.2012 — EO'D

736 *M. lucidella* (Steph.) — Middletown SJ305121 (**47**) 25.vii.2012, genitalia det. ANG — D. Boyes *per* PRW

740 *M. hornigi* (Staud.) — Stretham TL5174 (**29**) 21.vii.2012, male genitalia det. — I. Barton & K. Rosewarne *per* SMP

741 *M. suffusella* (Dougl.) — Landford Bog SU2518 (**8**) 25.v.2012 — EGS & MHS

742 *M. lutulentella* (Zell.) — Middletown SJ305121 (**47**) 25.vii.2012, genitalia det. ANG — D. Boyes *per* PRW

778 *Bryotropha umbrosella* (Zell.) — Chrossapol, Isle of Coll NM144538 (**103**) 19.vi.2012, det. MRY — I. Lycett *per* MRY

780 *B. similis* (Staint.) — Thrapston SP9978 (**32**) 21.vii.2012 — M. Hammond *per* DVM

782 *B. senectella* (Zell.) — Over Courance Lodge, Courance NV051908 (**72**) 11.viii.2012 — B.D. Henderson *per* KAN

784 *B. galbanella* (Zell.) — Wardlaw Wood NS2552 (**75**) early viii.2012, det. KPB — A. Huff *per* KPB

788 *B. politella* (Staint.) — Ivinghoe Beacon SP9516 (**24**) 20.vi.2012, male genitalia det. PRH — D.L. Wilton *per* MVA; Wardlaw Wood NS2552 (**75**) early viii.2012, det KPB — A. Huff *per* KPB

789 *B. domestica* (Haw.) — Belfast (Fortwilliam) J338778 (**H39**) 3.viii.2012 — KGMB

755 *Stenolechia gemmella* (Linn.) — Wellington SJ653122 (**40**) 15.viii.2012 — K. Fowler *per* AGB

760 *Exoteleia dodecella* (Linn.) — Maes yr Haf, Newport SN05713896 (45) 29.vi.2012, det. JRL from photograph — ADL

770 *Carpatolechia proximella* (Hübn.) — Newton East Woods, Welsh Hook SM933270 (45) 17.v.2012 — R. Taylor *per* ADL

773 *Pseudotelphusa paripunctella* (Thunb.) — South Glendale, South Uist NF791153 (110) 27.vii.2012 — J.B. Kemp *per* MRY

774a *Teleiodes flavimaculella* (H.-S.) — Southborough Common TQ5742 (16) 13.v.2012 — ICB

790 *Chionodes fumatella* (Dougl.) — Prees Heath SJ5637 (40) 21.viii.2012, male genitalia det. ANG — D. Grundy *per* AGB

791 *C. distinctella* (Zell.) — Prees Heath SJ5637 (40) 21.viii.2012, two males genitalia det. ANG — D. Grundy *per* AGB

794 *Prolita sexpunctella* (Fabr.) — Whimble Hill SO2062 (43) netted 27.v.2012 — PJC, VFC

801 *Gelechia scotinella* H.-S. — Aldbury SP9614 (24) 8.viii.2012, male genitalia det. — PRH *per* MVA

801a *G. senticetella* (Staud.) — Sharpthorne TQ374325 (14) 12.vii.2011 — P. Clark *per* CRP; Thetford TL8684 (28) 27.vii.2012 — L. Gregory *per* JRW

813 *Scrobipalpa salinella* (Zell.) — Stert ST265455 (5) 27.vi.2012, genitalia det. — RJH

816 *S. obsoletella* (F. v. R.) — Stretham TL5174 (29) 24.viii.2012, male genitalia det. — I. Barton & K. Rosewarne *per* SMP

822 *S. acuminatella* (Sirc.) — Middletown SJ305121 (47) 4.vi.2012, genitalia det. ANG — D. Boyes *per* PRW

826 *Caryocolum vicinella* (Dougl.) — Cardryne NX114316 (74) 8.ix.2012 — R. & B. Mearns *per* KAN; Cape Clear Island V943202 (H3) 9.viii.2012, genitalia det. KGMB — EO'D

830 *C. fraternella* (Dougl.) — Knucklas Castle SO249745 (43) 11.viii.2012, male genitalia det. VFC — PJC, VFC; Kirkhill Bridge NT3361 (83) larvae on *Cerastium fontanum* 25.iv 2011, moths bred — KPB

834 *C. tricolorella* (Haw.) — Llanfyllin SJ157210 (47) 5.viii.2012, det. PRW — M.D. Haigh *per* PRW

843 *Aproaerema anthyllidella* (Hübn.) — Glasbury SO180390 (43) 24.vii.2012 — PJC, VFC; Birling Links, Warkworth NU255064 (68) 7.viii.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT

844 *Syncopacma larseniella* (Gozm.) — Chippenham Fen TL6569 (29) 25.vii.2012, male genitalia det. – I. Barton & K. Rosewarne *per* SMP; Staveley NR SE3663 (64) 23.vii.2012, female genitalia det. — CHF, J.C. Warwick, T.A. Box et al.

847 *S. taeniolella* (Zell.) — Stackpole Warren SR979947 (45) 22.vii.2012 — R. Taylor *per* ADL; Llanymynech Rocks Nature Reserve SJ267219 (47) 10.viii.2012, genitalia det. — M.J. Dale *per* PRW; Little Island (Eastgate) W743724 (H5) 16.vii.2011— KGMB

851 ***Dichomeris alacella*** (Zell.) — Chippenham Fen TL6569 (29) 25.vii.2012, male genitalia det. — I. Barton & K. Rosewarne *per* SMP

855 *Acompsia cinerella* (Cl.) — Effgill, Bentpath NY301928 (72) 21.vii.2012 — A. White, C. White, R. & B. Mearns *per* KAN

856 *Anarsia spartiella* (Schrk.) — Glasbury SO180390 (43) 21.vii.2012, male genitalia det. PJC — PJC, VFC; Middletown SJ305121 (47) 22.vii.2012, det. PRW — D. Boyes *per* PRW

857 *A. lineatella* Zell. — Sharpthorne TQ374325 (14) 23.vii & 24.vii.2012 — P. Clark *per* CRP

858 *Hypatima rhomboidella* (Linn.) — Castlewellan Wood J322376 (**H38**) 7.ix.2012 — KGMB; Banagher Glen C674039 (**H40**) 13.viii.2012 — KGMB

859 *Psoricoptera gibbosella* (Zell.) — Llanymynech Rocks Nature Reserve SJ267219 (**47**) 10.viii.2012, genitalia det. M.J. Dale — D.A. Grundy *per* PRW; Leeds SE3336 (**64**) 12.viii.2012 — J. Walshe *per* HEB

866 *Brachmia blandella* (Fabr.) — Glasbury SO180390 (**43**) 9.viii.2012 — PJC, VFC

AUTOSTICHIDAE

870 *Oegoconia quadripuncta* (Haw.) — Crickhowell SO2119 (**42**) 10.viii.2012, genitalia det. NRL — S.B. Furber *per* NRL

871 *O. deauratella* (H. – S.) — Breach Hill SU0046 (**8**) 6.vii.2012, genitalia det. — EGS & MHS

BLASTOBASIDAE

874 *Blastobasis lacticolella* Rebel — Commins Coch SH845028 (**47**) 18.vi.2012, det. M.D. Haigh — PRW

STATHMOPODIDAE

877 *Stathmopoda pedella* (Linn.) — Wood Lane NR SJ4232 (**40**) 1.vii.2012, det. AGB from photograph — M. Justamond *per* AGB; Rudston TA0967 (**61**) 18.viii.2012 — A.S. Ezard *per* HEB; Framwellgate Moor NZ2644 (**66**) 24.vii.2012 — TJB

BATRACHEDRIDAE

878 *Batrachedra praeangusta* (Haw.) — Crom Estate H358244 (**H33**) 5.viii.2012 — KGMB

MOMPHIDAE

880 *Mompha langiella* (Hübn.) — Leicester SK570056 (**55**) 27.iii.2012 — H.A. Peacock *per* APR

881 *M. terminella* (H. & W.) — Freston TM1739 (**25**) mines on *Circaea lutetiana* 22.ix.2012 — J. Chainey & J. Spence *per* AWP; Hackfall Wood SE2377 (**64**) 29.vi.2012 — CHF, J.C. Warwick & D.M. Smiley; Kippenrait Glen NS7999 (**87**) larvae in *Circaea lutetiana* 22.v 2011, moths bred — KPB; Ulster Folk Museum J42480 (**H38**) tenanted mines on *Circaea lutetiana* 12.x.2012, det. D. Grundy from photograph — C. & B. Picton *per* JMcC

882 *M. locupletella* ([D. & S.]) — Brown Moss SJ5639 (**40**) 26.vii.2011 — P. Boardman *per* AGB; Hutton Conyers SE3273 (**65**) 26.vi.2012 — CHF; Bridgelands NT481304 (**79**) 18.viii.2012, conf. MRY from photograph — T. De Bordes *per* MRY; Birnie Loch NO2812 (**85**) pupae in shoots of *Epilobium* sp. 13.vii 2012, moths bred — SEM; South Glendale, South Uist NF791153 (**110**) 1.vii.2012 — J.B. Kemp *per* MRY

886 *M. ochraceella* (Curt.) — Middletown SJ305121 (**47**) 22.vii.2012, det. PRW — D. Boyes *per* PRW

887 *M. lacteella* (Steph.) — Worsthorne SD870329 (**59**) to MV light 28.vi.2012, genitalia det. SMP — G. Gavaghan & G. Turner *per* SMP; Over Courance Lodge, Courance NY051908 (**72**) 7.vii.2012 — B.D. Henderson *per* KAN; Grovehill, Minnigaff NX412665 (**73**) 24.vii.2012 — G. Chambers *per* KAN

888 *M. propinquella* (Staint.) — Craigburn NT2354 (**78**) larvae on *Epilobium* sp. 29.ix 2012, moths bred — KPB; Strathnaver NC7147 (**108**) 28.vii.2012, genitalia det. — PRH

889 *M. divisella* H.-S. — Cwmbach, Glasbury SO167399 (**43**) 16.v.2012, female genitalia det. VFC — PJC, VFC

889a *M. bradleyi* Riedl — Abbotskerswell SX859687 (**3**) 15.x.2011, genitalia det. — BPH; Attenborough NR SK524354 (**56**) 19.x.2012, genitalia det. JC — TS

890 *M. jurassicella* (Frey) — How Hill NNR TG3619 (**27**) found indoors 16.iii.2012, genitalia det. JC — P.J. Heath *per* JRW; Northampton, Far Cotton SP7458 (**32**) 13.ii.2012, genitalia det. DVM — M. Coles *per* DVM

891 *M. sturnipennella* (Treits.) Biggleswade TL1944 (**30**) 24.vii.2012, genitalia det. DVM — L. Burgess *per* DVM; Tadcaster SE4842 (**64**) 21.iv.2012, genitalia det. HEB — D. Baker *per* HEB

892 *M. subbistrigella* (Haw.) — Pollockshaws NS591599 (**76**) 26.v.2012, det. TJT — G. Williamson *per* MRY

COSMOPTERIGIDAE

896a *Cosmopterix scribaiella* Zell. — Elms Farm, Icklesham TQ888155 (**14**) 4.vii.2012 — I.D. Hunter & P. Jones *per* CRP

897a *Anatrachyntis badia* (Hodges) — Bootle SJ39 (**59**) alive in bag of supermarket grapes (origin unknown) 28.x.2012, det. B. Smart — CHF *per* SMP

900 *Pancalia schwarzella* (Fabr.) — Braunton Burrows SS454352 (4) larvae on *Viola tricolor* ssp. *curtisii* 24.v.2012, moths bred 10 & 13.vii.2012. Previously unrecorded foodplant – – SDB & RJH

902 *Chrysoclista lathamella* Fletch. — Forest of Dean SO6209 (**34**) 5.vii.2012, male genitalia det. — GHJM; Highwood, Eastham SO653669 (**37**) 23.vi.2012 — K. Willets *per* ANBS

904 *Spuleria flavicaput* (Haw.) — Brynyrhydd Common SO186413 (**43**) netted 30.v.2012, female genitalia det. PJC — PJC, VFC; Big Waters, nr Brunswick (**67**) 5.vi.2012 — J. Wallace *per* TJT, *Ent. Rec.* **124**: 163-164

905 *Blastodacna hellerella* (Dup.) — Uddingston NS7060 (**77**) 3.vii 2011, genitalia det. KPB — P. Lintott *per* KPB

SCYTHRIDIDAE

911 *Scythris grandipennis* (Haw.) — Charlton Kings Common SO 9618 (**33**) 4.vii.2012, male genitalia det. — GHJM

914 *S. crassiuscula* (H. – S.) — West Yatton Down ST854760 (7) 20.vi.2012, genitalia det., first record since 19thC. — MSP *per* EGS & MHS

917 *S. empetrella* Karsholt & Nielsen — Cuthill Links near Dornoch NH749867 (**107**) larvae on *Calluna vulgaris* 5.v.2012, moths bred, second Scottish locality — SDB & RJH

TORTRICIDAE

923 *Phtheochroa sodaliana* (Haw.) — Brigsteer Park Wood SD487881 (69) 20.vi.2012, first VC record for over 100 years — M. Tordoff *per* GH

924 *Hysterophora maculosana* (Haw.) — Melton Constable TG0433 (27) 23.v.2012, det. JC, first county record since 19thC. — D.W. Longden *per* JRW; Swarland Wood (south) NU155026 (68) 19.v.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT; Murlough J412351 (**H38**) 20.v.2012, genitalia det. JMcC — A. Crory *per* JMcC

930 *Gynnidomorpha alismana* (Rag.) — Staveley NR SE3663 (**64**) 27.vi.2012, genitalia det. HEB — T.A. Box *per* HEB

932 *Phalonidia affinitana* (Dougl.) — Priestside Merse, Powfoot NY128649 (**72**) 16.vii.2012, genitalia det. KPB — R. & B. Mearns *per* KAN

936 *Cochylimorpha straminea* (Haw.) — Llanymynech Rocks NR SJ267219 (**47**) 27.v.2012, det. PRW —M.J. Dale *per* PRW

944 *Aethes williana* (Brahm) — Cranwich Heath TL7793 (**28**) 10.vi.2012 — I. Barton & K. Rosewarne *per* JRW

947 *A. smeathmanniana* (Fabr.) — Cardryne NX114316 (**74**) 8.ix.2012 — R. & B. Mearns *per* KAN

950 *A. francillana* (Fabr.) — Sheeplands J583396 (**H38**) 12.vii.2012, genitalia det. KGMB — K. Murphy *per* JMcC

960 *Falseuncaria ruficiliana* (Haw.) — Dornockbrow NY238652 (**72**) 27.vi.2012 — B. Hammond *per* KAN

964a *Cochylis molliculana* Zell. — Mendlesham TM1065 (**25**) 7.v.2011 — N. Sherman *et al. per* AWP; Haddiscoe New Cut TG4300 (**27**) 1.ix.2012 — B. Jones *per* JRW; Dersingham TF6830 (**28**) 27.viii.2012 — R.E. Jones *per* JRW

966 *C. atricapitana* (Stephens) — Llanymynech Rocks NR SJ267219 (**47**) 27.v.2012, det. PRW —M.J. Dale *per* PRW

971 *Pandemis cinnamomeana* (Treits.) — Tentsmuir NNR NO501270 (**85**) 18.viii.2012, det. MRY — DWWD

982 *Choristoneura diversana* (Hübn.) — Slade Wood SP024540 (37) 7.vii.2012, first county record since 1882 — ANBS

1002 *Lozotaenia forsterana* (Fabr.) — Peebles NT248398 (**78**) 19.vii.2012, det. A. Mitchell — R. Singleton *per* MRY

1007 *Capua vulgana* (Fröl.) — King's Wood, Heath and Reach SP9229 (**30**) 26.v.2012 — A.M. Banthorpe & M.G. Banthorpe *per* DVM

1009 *Philedonides lunana* (Thunb.) — Mynydd Llangorse SO1627 (**42**) 21.iii.2012 — NRL

1010 *Ditula angustiorana* (Haw.) — Sanquhar Road, Forres NJ038585 (**95**) 23.vii.2012, conf. MRY — J. Hammond *per* MRY

1016 *Cnephasia longana* (Haw.) — St Cyrus NNR NO7564 (**91**) larva 19.vii.2012, moth emerged 3.viii.2012, det. MRY — P. Brooks *per* MRY

1022a *C. pumicana* (Zell.) — Biggleswade TL1944 (**30**) 14.viii.2012, genitalia det. DVM — L. Burgess *per* DVM; Queen's Wood, Dymock SO692285 (**34**) 27.vii.2012, genitalia det. ANBS — MJB; Bransford SO792527 (**37**) seven between 16.vii and 2.viii.2012, genitalia det. — ANBS; Barnsdale Gardens, Rutland SK9110 (**55**) 11.viii. 2012, genitalia det. DVM — V. Arnold *per* DVM

1023 *C. genitalana* P. & M. — Guisborough NZ5916 (**62**) 8.ix.2012, genitalia det. — R. Woods *per* HEB

1025 *Tortricodes alternella* ([D. & S.]) — Coed y Cefn, Rhayader SN953680 (**43**) 24.iii.2012 — S. Jones & R. Knight *per* PJC & VFC; Claonaig Wood SSSI NR861555 (**101**) 13.ii.2012 — G. Hunter *per* MRY; Lochdon, Mull NM729389 (**103**) 13.ii.2012 — A. Kirkham *per* MRY

1031 *Eana penziana* ssp. *bellana* (Curtis) — Dalnacardoch Lodge NN720704 (**89**) 15.vii.2012 — T. Prescott & R. Leverton *per* MRY

1034 *Spatalistis bifasciana* (Hübn.) — Sherborne National Trust Estate SP1614 (**33**) to MV light 14.vii.2012 — P. Hugo and R. Wasley *per* RH

1036 *Acleris forsskaleana* (Linn.) — Craigie, Perth NO105226 (**88**) 14.viii.2012 — J. Stoneman *per* MRY

1038 *A. laterana* (Fabr.) — Culhame C882151 (**H40**) 6.ix.2012, male genitalia det. — KGMB

1039 *A. comariana* (L. & Z.) — Lady Bay, Loch Ryan NX026717 (**74**) 15.ix.2012, genitalia det. KPB — G. & J. Shepard, T. Bowman, P. robinson, R. & B. Mearns *per* KAN

1051 *A. logiana* (Cl.) — Elvington SE6748 (**61**) 15.viii.2012, genitalia det. HEB — D. Baker *per* HEB

1055 *A. hyemana* (Haw.) — near Claonaig NR873567 (**101**) 27.ii.2012 — G. Hunter *per* MRY

1057 *A. rufana* ([D. & S].) — Heughead, Aboyne NO4998 (**92**) larva on *Myrica gale* 13.vii.2012, moth bred — MRY

1058 *A. lorquiniana* (Dup.) — Romney Marsh TR077319 (**15**) 10.x.2012, det. MRH — J. Owen *per* MRH

1062 *A. emargana* (Fab.) — Kippit Birch Wood NT115474 (**78**) 8.ix.2012 — A. McArthur *per* MRY

1062a *A. effractana* (Hübn.) — Bay Horse SD529525 (**60**) to MV light 18.viii.2012, male genitalia det. — N.A.J. Rogers *per* SMP

1065 *Celypha rufana* (Scop.) — Gait Barrows SD4877 (60) larvae in spinnings amongst dead leaves of *Potentilla sterilis* and *Fragaria vesca*, and not on the rootstocks of *Chrysanthemum vulgare* or *Artemisia vulgaris* which were the foodplants given in British literature, 18.v.2012, moths bred 10–19.vi.2012. Apparently the first time that larvae have been found in the British Isles — SDB & RJH, *Ent. Gaz.* **64**: 27-32

1074 *Olethreutes palustrana* (L. & Z.) — Gass NX250647 (**74**) 14.vii.2012 — P. Norman *per* KAN

1075 *O. micana* ([D. & S.]) — Craigells, Dranigower, New Luce NX199650 (**74**) 14.vii.2012 — P. Norman *per* KAN

1079 *Piniphila bifasciana* (Haw.) — Cheltenham SO9721 (**33**) to MV light 8.viii.2012 — R. Ward *per* RH; Seghill NZ291745 (**67**) 4.viii.2012 — I. Fisher *per* TJT; Logie House NH7775 (**106**) 6.vii.2012, det. MRY — N.G.J. Richards *per* MRY

1083 *Hedya nubiferana* (Haw.) — Peebles NT249405 (**78**) 4.viii.2012, det. MRY — J. Woolliams *per* MRY; Baronscourt Forest H365833 (**H36**) 11.viii.2012 — KGMB

1085 *Metendothenia atropunctana* (Zett.) — Dalbeth NS6362 (**77**) 24.vii 2011, det. KPB — P. Lintott *per* KPB; — Killimster Loch ND311559 (**109**) 27.v.2012 — P. Miller *per* MRY

1091 *Apotomis lineana* ([D. & S.]) — North Duffield Carrs SE6936 (**61**) 2.vii.2006 — J.O.H. Small *per* HEB

1092 *A. turbidana* (Hübn.) — Banagher Glen C674039 & C670046 (**H40**) 13.viii.2012 — KGMB

1095 *A. sororculana* (Zett.) — Glasdrum, Loch Crenan NN000454 (**98**) 25.v.2012 — P. Cranswick *per* MRY

1097 *Endothenia gentianaeana* (Hübn.) — Thorp Perrow Arboretum SE2585 (**65**) pupa in head of *Dipsacus fullonum* 3.vi.2012, moth bred 7.vi.2012 — CHF

1106 *Lobesia reliquana* (Hübn.) — King's Wood, Heath and Reach SP9229 (30) 26.v.2012, first VC record since VCH — A.M. Banthorpe & M.G. Banthorpe *per* DVM

1119 *Ancylis geminana* (Don.) — Haddendon Wood NS855337 (**77**) vacated larval spinnings on *Salix cinerea* 7.x.2012 — SMP & JRL

1119b *A. subarcuana* (Dougl.) — Hill of Rattar ND244733 (**109**) 17.vii.2012 — N. Money *per* MRY

1124 *A. tineana* (Hübn.) — RSPB Ballinlaggan NH947244 (**95**) larvae on *Betula pendula* 12.viii.2012 — RJH & SDB *per* MRY

1133 *Epinotia bilunana* (Haw.) — Lochinver NC0823 (**108**) 21.vii.2012 — PRH

1134 *E. ramella* (Linn.) — Castlewellan Wood J322376 (**H38**) 7.ix.2012 males, genitalia det. — KGMB; Banagher Glen C674039 (**H40**) 13.viii.2012 — KGMB

1136 *E. immundana* (F. v. R) — Gramsdale, Benbecula NF819555 (**110**) 8.viii.2012 — J.B. Kemp *per* MRY

1138 *E. nisella* (Cl.) — Portnalong NG3435 (**104**) 1.ix.2012, genitalia det. — K. Sadler *per* B. Neath; Banagher Glen C674039 (**H40**) 13.viii.2012 — KGMB

1138a *E. cinereana* (Haw.) — Leckhampstead Wood SP7240 (**24**) 26.vii.2012, male genitalia det. PRH — D.L. Wilton *per* MVA

1139 *E. tenerana* ([D. & S.]) — Leswalt NX016650 (**74**) 17.vii.2012 — G. Sheppard *per* KAN

1142 *E. tedella* (Cl.) — Gormonston College O164664 (**H22**) 25.v.2012 — EO'D

1143 *E. fraternana* (Haw.) — Dalbeth NS6362 (**77**) 24.vii 2011, det. KPB — P. Lintott per KPB; N. of Loch Ossian NN3767 (**97**) 18.vi 2011 — KPB; Ballyscanlan S543029 (**H6**) 25.vi.2012 — TB

1144 *E. signatana* (Dougl.) — Brokenstones SO419877 (**40**) 26.vii.2012 — H. Davies *per* ANBS

1145 *E. nanana* (Treits.) — Ballyscanlan S543029 (**H6**) 20.vii.2012 — TB

1146 *E. rubiginosana* (H. - S.) — Acarsaid, Eriskay NF789098 (**110**) 24.v.2012 — J.B. Kemp *per* MRY; Ballyscanlan S543029 (**H6**) 25.vii.2012 — TB

1151 *E. trigonella* (Linn.) — Crom Estate H375251 (**H33**) 6.viii.2012 KGMB

1155 *E. brunnichana* (Linn.) — Castleblagh Wood W708979 (**H5**) 19.viii.2012, male genitalia det. KGMB; Crom Estate Gate Lodge H375251 (**H33**) 6.viii.2012, male genitalia det. — KGMB

1156 *E. solandriana* (Linn.) — Clabbach, Isle of Coll NM180587 (**103**) 8.ix.2012, det. KPB — A. White *per* MRY

1157 *Crocidosema plebejana* (Zell.) — Great Ellingham TM0196 (**28**) 24.x.2012 — C. Knott *per* JRW

1159 *Rhopobota naevana* (Hübn.) — Strathnaver NC7147 (**108**) 28.vii.2012, genitalia det. — PRH; South Glendale, South Uist NF791153 (**110**) 11.viii.2012 — J.B. Kemp *per* MRY

1161 *R. stagnana* ([D. & S.]) — Strathossian House NN4072 (**97**) 19.vi 2011 — KPB

1162 *R. myrtillana* (H. & W.) — Old railway track west of Mossland NX6369 (**73**) 29.v.2012 — K. McCabe *per* KAN

1163 *Zeiraphera ratzeburgiana* (Ratz.) — Lough Navar Forest H069564 (**H33**) 4.viii.2012 — KGMB

1165 *Z. isertana* (Fabr.) — Ballyscanlan S543029 (**H6**) 14.vii.2012 — TB

1166 *Z. griseana* (Hübn.) — Minwear Woods SN05141365 (**45**) 24.vi.2012 — R. Taylor *per* ADL; North Uist NF845655 (**110**) 21.viii.2012 — J.B. Kemp *per* MRY

1169 *Gypsonoma dealbana* (Fröl.) — Over Courance Lodge, Courance NV051908 (**72**) 1.viii.2012 — B.D. Henderson *per* KAN

1171 *G. minutana* (Hübn.) — Lindfield TQ348248 (**14**) 1.viii.2012 — R.W. Foreman *per* CRP; Attenborough NR SK524354 (**56**) 18.viii.2012 — TS *per* MSP

1179 *Epiblema incarnatana* (Hübn.) – Birling Links, Warkworth NU255064 (68) larvae on *Rosa pimpinellifolia* vi.2012, moths bred, first VC record for over 100 years — A.J. Fairclough *per* TJT

1181 *E. grandaevana* (L. & Z.) — Overstrand TG2540 (**27**) amongst *Tussilago farfara* 15.vii.2012 — JAMcG

1182 *E. turbidana* (Treits.) — West Thirston NU187003 (**67**) 16.vii.2012 — A.J. Fairclough *per* TJT; Felton Village NU188007 (68) 16.vii.2012, first VC record for over 100 years — A.J. Fairclough *per* TJT

1184a *E. cirsiana* (Zell.) — Middletown SJ305121 (**47**) 12.v.2012, genitalia det. JC — D. Boyes *per* PRW

1193 *Eucosma tripoliana* (Barr.) — Dunkettle W737722 (**H5**) 26.vii.2012, male genitalia det. — KGMB

1200b *E. fulvana* (Steph.) — Maes yr Haf, Newport SN05713896 (**45**) 27.vii.2012 — ADL

1207 *Clavigesta purdeyi* (Durrant) — Llanymynech Rocks NR SJ267219 (**47**) 10.viii.2012, det. M.J. Dale — D.A. Grundy *per* PRW; Murlough NNR J413351 (**H38**) 1.ix.2012 — A. Crory *per* JMcC

1208 *Pseudococcyx posticana* (Zett.) — Kempston TL0248 (**30**) 21.v.2012, det. DVM — M. Palmer *per* DVM

1212 *Rhyacionia pinivorana* (L. & Z.) — Tentsmuir Forest NO487240 (**85**) 29.vi.2012 — DWWD

1217 *Eucosmomorpha albersana* (Hübn.) — Darren Wood, Llanstephan SO114430 (**43**) netted 21.v.2012 — PJC, VFC

1219 *Lathronympha strigana* (Fabr.) — Glen Varrigill, Skye NG478396 (**104**) 29.vi.2012 — J. Kemp *per* MRY

1221 *Strophedra weirana* (Dougl.) — Minwear Woods SN05141365 (**45**) 24.vi.2012 — R. Taylor *per* ADL; Pantlludw, Machynlleth SH733014 (**48**) 7-13.vii.2012, genitalia det. ANG — D. Taylor *per* ANG Forcett Park NZ1711 (**65**) larval feeding signs on *Fagus sylvatica* 1.xi.2012 — CHF

1222 *S. nitidana* (Fabr.) — Bishop Wood SE5533 (**64**) 19.vi.2012 — CHF

1225 *Pammene obscurana* (Steph.) — Winfrith Heath SY80368662 (**9**) 25.v.2012 — MSP, L. Hill & A. Rosenthal

1228 *P. argyrana* (Hübn.) — Cilgerran SN187450 (**45**) 23.iv.2012 — NRL & D. Grundy *per* ADL; Ballyscanlan S543029 (**H6**) 15.v.2012 — TB

1228a *P. ignorata* (Kuzn.) — Eshott (South Farm) NZ212978 (**67**) 18.v.2011, conf. K. Larsen from photograph by TJT — M.S. Hodgson *per* TJT; Tynemouth NZ363704 (67) 20.vi.2011, male genitalia det. JC — TJT

1232 *P. populana* (Fabr.) — Bellflask SE3077 (**65**) 26.vii.2012 — B. Morland *per* CHF; Ballyscanlan S543029 (**H6**) 18.viii.2012 — TB; Srah Bog R808983 (**H15**) 9.viii.2012, male genitalia det. — KGMB

1233 *P. aurita* (Raz.) — Newburn NZ167653 (**67**) 25.viii.2012, conf. TJT – R.G. Waugh *per* TJT

1234 *P. regiana* (Zell.) — Dunskey Estate, Portpatrick NW991552 (**74**) 28.vii – 2.viii.2012 — A. Barker *per* KAN

1237 *P.germmana* (Hübn.) — Cranmore SZ898398 (**10**) 30.v.2012, det. MJW — I. Fletcher *per* SAK-J; Welsh Hook SM9327 (**45**) 12.vi.2012 — R. Taylor

1238 *P. ochsenheimeriana* (Lien. & Zell.) — Forest of Dean SO6307 & SO6207 (**34**) 9.vi.2012 — GHJM; Llanddewi SO103686 (**43**) 24.v.2012, det. PJC — I. Standen & R. Standen *per* PJC & VFC, **New to Wales**

1239 *P. rhediella* (Cl.) — Gormonston College O164664 (**H22**) 25.v.2012 — EO'D

1272 *P. aurana* (Fab.) — Ullapool NG140933 (**105**) 19.vii.2012 — M. and S. Pittman *per* MRY

1241 *Grapholita compositella* (Fabr.) — Buston Links NU247099 (**68**) 25.vi.2012, conf. TJT — A.J. Fairclough *per* TJT; Bhauve Bog, Belmullet F691359 (**H27**) 9.vi.2012 — EO'D

1242 *G. internana* (Guen.) — Harlestone Heath SP7283 (**32**) 23.v.2012, genitalia det. DVM — P.D. Sharpe *per* DVM

1246 *G. tenebrosana* (Dup.) — Glasbury SO180390 (**43**) 21.vii.2012, female genitalia det. VFC — PJC, VFC

1249 *G. lobarzewskii* (Nowicki) — Northampton, Far Cotton SP7458 (**32**) 13.vii.2012, genitalia det. DVM — M. Coles *per* DVM

1256 *Cydia servillana* (Dup.) — Eaton Ford TL176604 (**30**) 25.v.2012, genitalia det. K. Royles — A.A. Lawrence *per* DVM

1259 *C. fagiglandana* (Zell.) — Aberystwyth SN623 (**46**) in RIS trap vii-ix.2012 genitalia det. — PRH

1261 *C. pomonella* (Linn.) — Surrigarth, Westray HY491451 (**111**) 12.vii.2012, det. R. Leverton from photograph — S. Gauld *per* MRY

1262 *C. amplana* (Hübn.) — Langley Wood NNR SU226200 (**8**) 21.viii.2012 — MSP; Weybridge TQ0864 (**17**) 10.viii.2012 — A.R. Mitchell *per* JP; Upwell TG5002 (**28**)

18.viii.2012, genitalia det. — JRW; Cheltenham SO9619 (**33**) to MV light 18.viii.2012 — A. Lodge *per* RH; Gorseinon SS5899 (**41**) 11.viii.2012 — B. & S.J. Stewart *per* DJS; Kibworth Harcourt SP682946 (**55**) 17.viii.2012, det. AMD — M. Warren *per* AMD; Lealholm NZ7607 (**62**) 16.viii.2012 — G. Featherstone *per* HEB

1266a *C. illutana* (H.-S.) — Anmer TF7628 (**28**) 30.vi.2012, genitalia det. JC — D. Appleton *per* JRW, *Ent. Rec.* **125**: 47-49

1267 *C. cosmophorana* (Treits.) — Tentsmuir Forest NO487240 (**85**) 29.vi.2012, det. MRY — DWWD

1268 *C. coniferana* (Ratz.) — Harehope NU085205 (**68**) 13.vi.2012, male genitalia det. TJT — A.J. Fairclough *per* TJT; The Argory H870580 (**H37**) 11.viii.2012 det. B. Elliott — K. Murphy *per* JMcC

1275 *Dichrorampha flavidorsana* (Knaggs) — Weston Colley SU5039 (**12**) female netted flying around *Tanacetum* by day 20.vi.2012, genitalia det. — D.G. Green *per* MJW

1278 *D. sequana* (Hübn.) — Middletown SJ305121 (**47**) 25.vi.2012, det PRW — D. Boyes, *per* PRW

1281 *D. simpliciana* (Haw.) — Birling Links, Warkworth NU255064 (**68**) 7.viii.2012, male genitalia det. TJT — A.J. Fairclough *per* TJT

1284 *D. vancouverana* McDunnough — Dudmaston SO745902 (**40**) 1.viii.2012 — K. Fowler *per* AGB

1285 *D. plumbana* (Scop.) — Treshnish, Mull NM345489 (**103**) 13.vi.2012, male genitalia det. — MRY

1287 *D. aeratana* (P. & M.) — Harrington Airfield SP7778 (**32**) 19.vi.2012, genitalia det. DVM — P.D. Sharpe *per* DVM; Glasbury Churchyard SO177385 (**43**) netted 07.vii.2012, male genitalia det. PJC — PJC, VFC; Middletown SJ305121 (**47**) 18.v.2012, genitalia det. ANG — D. Boyes *per* PRW; Wingate Quarry NZ3737 (**66**) 5.vii.2012, female genitalia det. TJT — TJT and J. Wallace *per* TJB; Berwick (**68**) 23.v.2012, genitalia det. TJT — M. & F. Aungier *per* TJT, *Ent. Rec.* **124**: 163-164

EPERMENIIDAE

477 *Phaulernis dentella* (Zell.) — Islip SP9678 (**32**) 5.vi.2012 — M. Hammond *per* DVM, *Ent. Rec.* **125**: 46-47

482 *Epermenia insecurella* (Staint.) — Glos.WT NR near Cirencester SP0506 (**33**) 19.vii.2012 — GHJM

PYRALIDAE

1297 *Crambus uliginosellus* Zell. — Barneight Moss NX332645 (**74**) 24.vii.2012 — P. Norman *per* KAN

1303 *Agriphila selasella* (Hübn.) — Old Torr NX812522 (**73**) 11.viii.2012 — P. Norman *per* KAN

1306 *A. inquinatella* ([D. & S.]) — Aberlady Bay NT459819 (**82**) 3.viii.2012 — M.G. Cubitt per MRY; South Glendale, South Uist NF791153 (**110**) 13.vii.2012 — J.B. Kemp *per* MRY

1307 *A. latistria* (Haw.) — Northaw Great Wood TL2804 (**20**) 1.ix.2012 — CWP; Glasbury SO180390 (**43**) 18.viii.2012 — PJC, VFC

1310 *Catoptria permutatella* (H. - S.) — Assick NH813465 (**96**) 3.viii.2012 — B. Brodie *per* MRY

1314 *C. margaritella* ([D. & S.]) — Virkie, Shetland HU404114 (**112**) 25.vii.2012, det. JC — R. Riddington *per* MRY; Carrowmeanagh C837037 (**H40**) 14.viii.2012 — KGMB

1315 *C. furcatellus* (Zett.) — Millfore Ridge, Newton Stewart NX4774 (**73**) 25.vii 2012, det. KPB — R. Mearns *per* KPB

1316 *C. falsella* ([D. & S.]) — Newton Stewart NX411643 (**74**) 25.vii.2012 — T. Stewart *per* KAN; Sanquhar Woods, Forres NJ043582 (**95**) 13.viii.2012, det. M. Taylor — J. Hammond *per* MRY

1325 *Platytes alpinella* (Hübn.) — Lightfoot Green SD513333 (**60**) to MV light 11.viii.2012 — SMP & C.A. Palmer

1329 *Donacaula forficella* (Thunb.) — Glenville, Talybont SH589220 (**48**) 26.vii.2012 — J.M. Hicks *per* ANG; Srah Bog R808983 (**H15**) 9.viii.2012 — KGMB

1332 *Scoparia subfusca* Haw. — Salen, Mull NM576434 (**103**) 14.viii.2012, det. MRY from photograph — A. Skeates *per* MRY

1335 *S. ancipitella* (La Harpe) — Minswear Woods SN05141365 (**45**) 4.viii.2012, genitalia det. — R. Taylor *per* ADL; Bowden Hill NS973745 (**84**) 26.vii.2012 — M. G. Cubitt *per* MRY

1336 *Eudonia pallida* (Curt.) — Boraston SO611701 (**40**) 1.vii.2012 — G. Wookey *per* AGB

1338 *E. lacustrata* (Panz.) — Baronscourt Forest H365833 (**H36**) 11.viii.2012 — KGMB; Banagher Glen C674039 & C670046 (**H40**) 13.viii.2012 — KGMB

1340 *E. truncicolella* (Staint.) — Murlough Bay D190424 (**H39**) 5.ix.2012 — KGMB; Banagher Glen C674039 & C670046 (**H40**) 13.viii.2012 — KGMB

1341 *E. lineola* (Curt.) — Tynemouth NZ363704 (**67**) 17.vii.2012, female genitalia det. — TJT

1343 *E. delunella* (Staint.) — Mountallen Lodge G951135 (**H25**) 9.viii.2012 — KGMB; Baronscourt Forest H365833 (**H36**) 11.viii.2012 — KGMB

1344 *E. mercurella* (Linn.) — Castlewellan Wood J322376 (**H38**) 7.ix.2012 — KGMB; Banagher Glen C674039 (**H40**) 13.viii.2012 — KGMB

1357 *Evergestis extimalis* (Scop.) — Howick NU258178 (**68**) 17.viii.2012, conf. TJT — S. Sexton *per* TJT

1358 *E. pallidata* (Hufn.) — Littlemore SP526028 (23) 23.vii.2012, first county record since VCH — D. Redhead *per* MFVC

1362 *Pyrausta purpuralis* (Linn.) — South Glendale, South Uist NF791153 (**110**) 17.viii.2012 — J.B. Kemp *per* MRY; Derryvilla cutover bog S217522 (**H7**) 20.viii.2012 — KGMB

1363 *P. ostrinalis* (Hübn.) — Darren Wood, Llanstephan SO114430 (**43**) 13.vi.2012, male genitalia det. VFC — PJC, VFC

1367 *P. cingulata* (Linn.) — Cleeve Common SO9926 (33) 21.vii.2012 & 8.viii.2012, first confirmed county records since 1911 — GHJM

1367a *P. aerealis* (Hübn.) — Dibgate Quarry, Cheriton (**15**) 23.vi.2012, genitalia prep. B. Goodey, det. P.A. Sokoloff and M.R. Honey — T. Steele, *Atropos* **47**: 62-63, **New to the British Isles**

1368 *Loxostege sticticalis* (Linn.) — Burnbank Water, Inverclyde NS309685 (**76**) v.2012 — N. Gregory *per* MRY

1374a *Sclerocona acutellus* (Eversmann) — Walcott TG3530 (**27**) 4.vii.2012 — M. A'Court *per* JRW

1378 *Phlyctaenia coronata* (Hufn.) — Pollockshaws NS591599 (**76**) 6.vii.2012, det. R Leverton — G. Williamson *per* MRY

1379 *Anania terrealis* (Treits.) — Lochinver NC0823 (**108**) 21.vii.2012 — genitalia det. PRH & DVM — PRH; South Glendale, South Uist NF791153 (**110**) 17.viii.2012 — J.B. Kemp *per* MRY

1385 *A. crocealis* (Hübn.) — Crom Estate H357244 & H361242 (**H33**) 5.viii.2012 — KGMB

1390 *Udea prunalis* ([D. & S.]) — Lochinver NC0823 (**108**) 21.vii.2012 — PRH; Derrygonnelly H117522 (**H33**) 4.viii.2012 — KGMB

1397a *Diplopseustis perieresalis* (Walk.) — Tiverton SS965135 (**4**) 2.ix.2012 one at light — A. Cunningham *per* BPH

1398 *Nomophila noctuella* ([D. & S.]) — Peebles NT248398 (**78**) 23.x.2012, det. A.M. Davis — R. Singleton *per* MRY

1401 *Maruca vitrata* (Fabr.) — Sparkbrook SP981845 (**37**) 9.viii.2012 — D. Grundy *per* ANBS

1403a *Duponchelia fovealis* Zell. — Finaghy Belfast J311699 (**H39**)1.ix.2012, det. JMcC — C. Mellon *per* JMcC, **New to Ireland**

1404 *Spoladea recurvalis* (Fabr.) — Felixstowe TM2831 (**25**) 11.x.2011 — N. Odin *per* AWP

1405 *Pleuroptya ruralis* (Scop.) — Hill of Rattar ND244733 (**109**) 8.ix.2012 — N. Money *per* MRY; Topped Mountain H318458 (**H33**) 5.viii.2012 — KGMB; Roe Valley Country Park C675209 (**H40**) 13.viii.2012 — KGMB

1410 *Agrotera nemoralis* (Scop.) — Holcombe SX956748 (**3**) 1.vi.2012 one at light, probably an immigrant — R.F. McCormick *per* RJH

1415 *Orthopygia glaucinalis* (Linn.) — Murlough J413351 (**H38**) 7.vii.2012 — A. Crory *per* JMcC, **New to Ireland**

1429 *Aphomia zelleri* (Joann.) — Middleton-on-Sea SU982004 (**13**) 27.vii.2012 — I.D. Masters *per* CRP; Spurn TA4115 (**61**) 21.vii.2012 — B.R. Spence *per* HEB

1433 *Cryptoblabes bistriga* (Haw.) — Craignure, Mull NM715372 (**103**) 12.viii.2012, det. MRY from photograph — A. Skeate *per* MRY

1439 *Trachycera advenella* (Zinck.) — Caulhame C882151 (**H40**) 14.viii.2012 — KGMB

1447a *Sciota adelphella* (F. v. R.) — Great Ellingham TM09 (**28**) 10.viii.2012, det. JC — C. Knott *per* JRW

1451 *Pyla fusca* (Haw.) — Tandoo Point, Portpatrick NX009527 (**74**) 29.vii.2012, genitalia det. KPB — R. & B. Mearns *per* KAN

1454b *Dioryctria sylvestrella* (Ratz.) — Alsagar SJ819545 (**58**) 10.viii.2012, genitalia det. — M. Dale *per* SHH

1455 *D. simplicella* Hein. — Kames, Cowal NR974711 (**98**) 4.ix.2012 — S.Petty *per* MRY; South Glendale, South Uist NF791153 (**110**) 14.viii.2012 — J.B. Kemp *per* MRY; Murlough J412351 (**H38**) 27.vi.2012, genitalia det. JMcC — A. Crory *per* JMcC, **New to Ireland**

1458 *Myelois circumvoluta* (Geoff.) — Murlough J413351 (**H38**) 8.viii.2012 — A. Crory *per* JMcC

1486 *Apomyelois bistriatella* (Hulst) — White Moss, Roundsea SD3480 (**69**) 13.viii.2012 — D. Green *per* ES

1461 *Assara terebrella* (Zinck.) — Barnham Broom TG0707 (**27**) 15.vii.2012 — J. & J. Geeson *per* JRW; Studdridge, Eastcombe SO8904 (**33**) to MV light 18.viii.2012 — A. Perry *per* RH

1473 *Ephestia elutella* (Hübn.) — Langthorpe SE3967 (**65**) 15.vi.2012, genitalia det. HEB — T.A. Box *per* HEB

1478b *Vitula biviella* (Zell.) — Temple Golf Course SU8382 (**22**) 25 Jul 2012, genitalia det. PRH — D.J. White *per* MCH; Elveden TL7781 (**26**) 9.vii.2011 — AWP *et al.*

1479 *Plodia interpunctella* (Hübn.) — Shrewsbury SJ502128 (**40**) emerged from tub of bird food 10.ix.2012 — D. Woodhouse & S. Swales *per* AGB

1484 *Phycitodes saxicola* (Vaughan) — Portnalong NG3435 (**104**) 16.vii.2012, genitalia det. — K. Sadler *per* B. Neath

PTEROPHORIDAE

1501 *Platyptilia gonodactyla* ([D. & S.]) — Cloondanagh R507831 (**H9**) 27.v.2012 — KGMB

1503 *P. ochrodactyla* ([D. & S.]) — Cupar NO382139 (**85**) 20.viii.2012, det. C. Hart — G. Strugnell *per* DWWD

1507 *Stenoptilia zophodactylus* (Dup.) — Rascarrel NX803481 (**73**) 19.viii.2012, genitalia det. KPB — A. White *per* KAN

1509 *S. pterodactyla* (Linn.) — Dunskey Castle, Rhins Coast NX0053 (**74**) 20.vi.2012 — P. Norman *per* KAN; Duns Castle Woods NT776551 (**81**) 13.vii.2012, det. C. Hart — R. McBeath *per* MRY; Strathnaver NC7147 (**108**) 28.vii.2012, genitalia det. — PRH

1510 *Merriefieldia leucodactyla* ([D. & S.]) — Craigellachie, Aviemore NH888126 (**95**) 30.vi.2012 — M. Taylor *per* MRY

1517 *Adaina microdactyla* (Hübn.) — Cullernose Point NU259187 (68) larvae in stems of *Eupatorium cannabinum* 29.xi.2011, moths bred, first VC record for over 100 years — A.J. Fairclough & TJT

1518 *Ovendenia lienigianus* (Zell.) — Cross Lane Head, Bridgnorth SO707953 (**40**) 22.vii.2012, det. AGB from photograph, conf. ANBS — P. Deans *per* AGB

1519 *Euleioptilus carphodactyla* (Hübn.) — Tadcaster SE4742 (**64**) 9.ix.2012 — D. Baker *per* HEB

1523 *Oidaematophorus lithodactyla* (Treit.) — Pollockshaws NS591599 (**76**) 15.vii.2012, det. C. Hart — G. Williamson *per* MRY

Corrections

to the 2008 Review

710 *A. conterminella* (Zell.) — Carrickavrantry S550021 (**H6**) 3.viii.2008 — delete record

to the 2010 Review

135 *Lampronia luzella* (Hübn.) — (**H6**) delete Carrickavrantry substitute Ballyscanlan

883 *M. raschkiella* (Zell.) — (**H6**) delete Carrickavrantry substitute Ballyscanlan

998 *Epiphyas postvittana* (Walk.) — Ballyconry M220085 (**H9**) 30.v.2010 — KGMB — this record is now considered unreliable and should be deleted

to the 2011 Review

157 *H. hammoniella* (Sorh.) — delete ADL and substitute EO'D; (**H6**) delete Carrickavrantry substitute Ballyscanlan

283 *Caloptilia betulicola* (Her.) — (**H6**) delete Carrickavrantry substitute Ballyscanlan

297 *Eucalybites auroguttella* (Steph.) — (**H6**) delete Carrickavrantry substitute Ballyscanlan

313 *Acrocercops brongnardiella* (Fabr.) — delete (**H38**) and substitute (**H37**)

353 *Phyllonorycter ulmifoliella* (Hübn.) — (**H6**) delete Carrickavrantry substitute Ballyscanlan

409a *Argyresthia trifasciata* Staud. — delete Finaghyn and substitute Finaghy; delete **New to Ireland**

476 *Acrolepia autumnitella* Curtis — (**H6**) delete Carrickavrantry substitute Ballyscanlan

735 *Monochroa tenebrella* (Hübn.) — (**H6**) delete Carrickavrantry substitute Ballyscanlan

818 delete *S. artemisiella* and substitute *S. atriplicella*

1007 *Capua vulgana* (Fröl.) — delete Ballygarvaun and substitute Bellagarvaun

1132 *Epinotia subocellana* (Don.) — delete N98864 and substitute N988641

1160 *Acrolita subsequana* (H. - S.) — delete *Acrolita* and substitute *Acroclita*

FIRST ENGLISH RECORDS OF *ELACHISTA ORSTADII* (PALM) (LEP.: ELACHISTIDAE) ON FOUR COTSWOLD GRASSLAND SITES

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Abstract

Specimens of *Elachista orstadii* (Palm) (Lep.: Elachistidae) were found on four Cotswold limestone grassland sites in 2013. On re-examination of *Elachista* specimens kept from previous years another *E. orstadii* was found for one of these sites from 2012, initially misidentified. In the UK this species was previously known only from 6 vice-counties in Scotland.

Keywords. *Elachista orstadii* (Palm), Elachistidae, Cotswolds, distribution, genitalia.

Introduction

Elachista orstadii (Palm) is similar in appearance to some other *Elachista* species. The male forewing has been described as unmarked (Bland, 1996), but the specimen shown on a Swedish website (Svenska fjärilar *http://www2.nrm.se/en/svenska_fjarilar/e/elachista_orstadii.html*, accessed August 2013) has small pale costal marks close to the apex. In specimens with such markings there is scope for confusion with *E. subnigrella* (Douglas) and *E. canapennella* (Hübner), both of which are more widespread in the UK. The female forewing is strongly marked, but is also quite similar to other species. Determination by dissection is easier: the male aedeagus is deeply notched at the tip, sharply pointed and clearly sclerotised, unlike the other UK species with a notched aedeagus (Bland, 1996, fig. 106j; Traugott-Olsen & Nielsen, 1977, figs. 292, 293). In the female, the ostium is broad and spinose (Bland, 1996, fig. 102g; Traugott-Olsen & Nielsen, 1977, fig. 428). Until the records described in this paper, in the UK this species was known only from six Scottish vice-counties (J. R. Langmaid, pers. comm., 2 July 2013).

Initial discovery

On 2 May 2013 I visited several unimproved Cotswold limestone grassland sites, sweeping the short turf in the hope of finding *Stigmella poterii* (Stainton). I had found adults of this species for the first time on one site on 30 April, having previously only recorded the presence of the species at several sites from its larval leaf-mines. As often when seeking a particular species I was unsuccessful in that objective on 2 May, but made other useful records such as a new site for *Trifurcula cryptella* (Stainton). On Cleeve Common, on the Cotswold scarp near Cheltenham, a large site (over 400 hectares) with extensive areas of unimproved grassland, I swept a male *Elachista* which I kept for identification by dissection in due course. In a typical year this would have been some time in the autumn or early winter, but thanks to poor weather for fieldwork it was fortunate that I dissected the specimen as soon as 10 May.

Although the aedeagus tip did not narrow as much as shown in the illustrations, in other respects it was a clear match for *E. orstadii* when viewed through my stereo microscope. The valva shape also looked consistent with this species, although not strongly pointed at the apex as shown in (Bland, 1996, fig. 97a). I took some photographs through one eyepiece using a digital camera, and on 11 May I posted these and a query to the *Yahoo* Moth Dissection Discussion Group. Three members of the group responded the same day. My identification of the specimen seemed likely to be correct, but a good photograph of a microscope slide preparation was suggested and two of them, Brian Goodey and Peter Hall, kindly offered to do this for me (Plate 3). I use a non-standard dissection technique: I dissect a specimen in water with a small amount of washing-up liquid added, then store the unflattened parts in an undiluted drop of the liquid on the paper label. This is adequate for identification purposes and has enabled re-examination and comparison with other specimens in water at a later date, several years later in some cases, however it does not produce flattened preparations suitable for high-resolution magnification and photography.

Additional specimens and sites

Before seeking final confirmation of the identification I decided to revisit Cleeve Common in the hope of finding more specimens of the species, and of finding it in other places on the Common and at the Butterfly Conservation (BC) Prestbury Hill Nature Reserve nearby. When the weather was suitable for such fieldwork, I also visited other Cotswold grassland sites as usual. On finding similar-looking specimens I dissected most of them quite quickly, and the eventual outcome was the following set of specimens of *E. orstadii* in 2013:

Cleeve Common, O. S. grid reference SO 92, VC 33, 1♂, 2.v.2013 (Plate 1);

Brassey Nature Reserve (Gloucestershire Wildlife Trust), SP 12, VC 33, 2 ♂♂, 17.v.2013;

Cleeve Common, data as above, 3♂♂ 2♀♀, 19.v.2013 (female shown in Plates 2 & 5);

Prestbury Hill (Butterfly Conservation) Reserve, SO 92, VC 33, 3♂♂, 25.v.2013 (Plate 4);

Brassey Nature Reserve (Gloucestershire Wildlife Trust), data as above, 1♂, 27.v.2013;

Swift's Hill NR (Gloucestershire Wildlife Trust), SO 80, VC 33, 1♂, 3.vi.2013.

I decided to check some dissected male *Elachista* specimens I had kept from previous years in case I had not looked closely enough at a notched aedeagus and made an incorrect identification of an earlier male specimen of *E. orstadii*. I had indeed done just this with a specimen from GWT's Brassey NR, found on 19 May 2012 and incorrectly identified as *E. humilis* (Zeller), so at present this is the first known English specimen, and I was even luckier during 2012 than I realised when I wrote about that year's finds (Meredith, 2013).

Discussion

The Prestbury Hill reserve is adjacent to the southern edge of Cleeve Common, but the place where I found *E. orstadii* was more than 2km from the location of the first specimen on the Common. The Brassey reserve includes a small area of unimproved

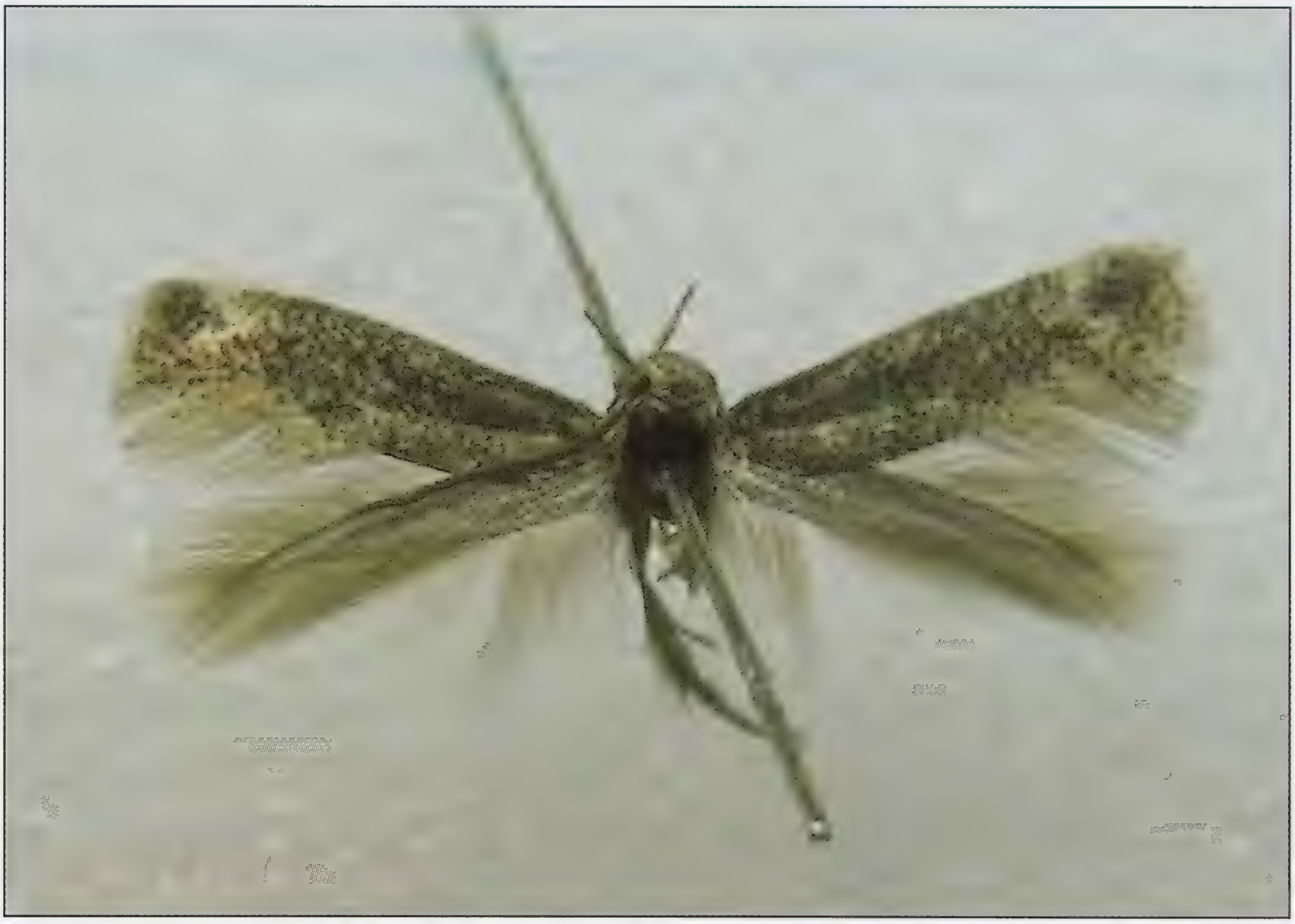

Plate 1. *Elachista orstadii* ♂, Cleeve Common, Cheltenham, 2 May 2013. © G.H.J. Meredith

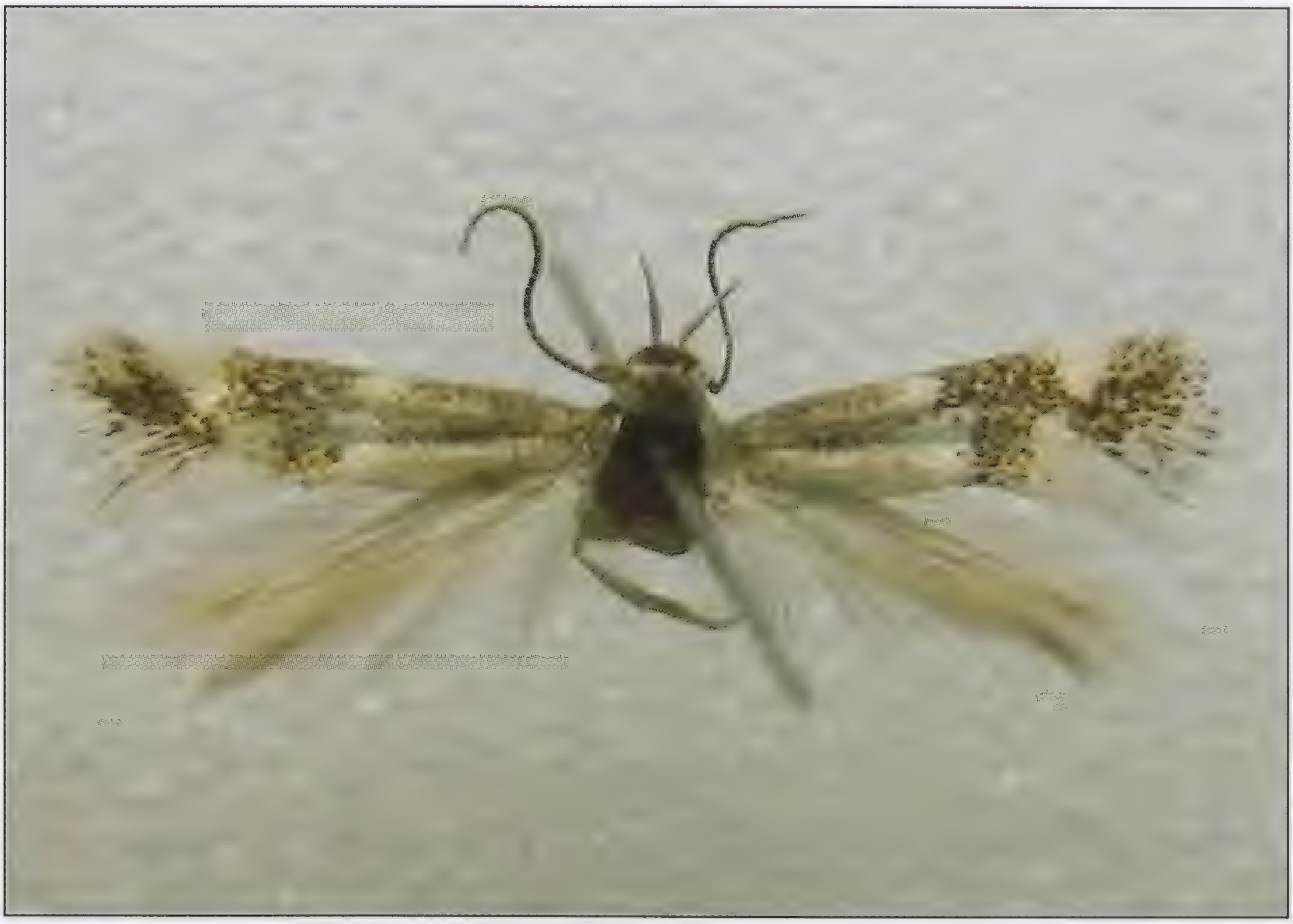

Plate 2. *Elachista orstadii* ♀, Cleeve Common 19 May 2013. © G.H.J. Meredith

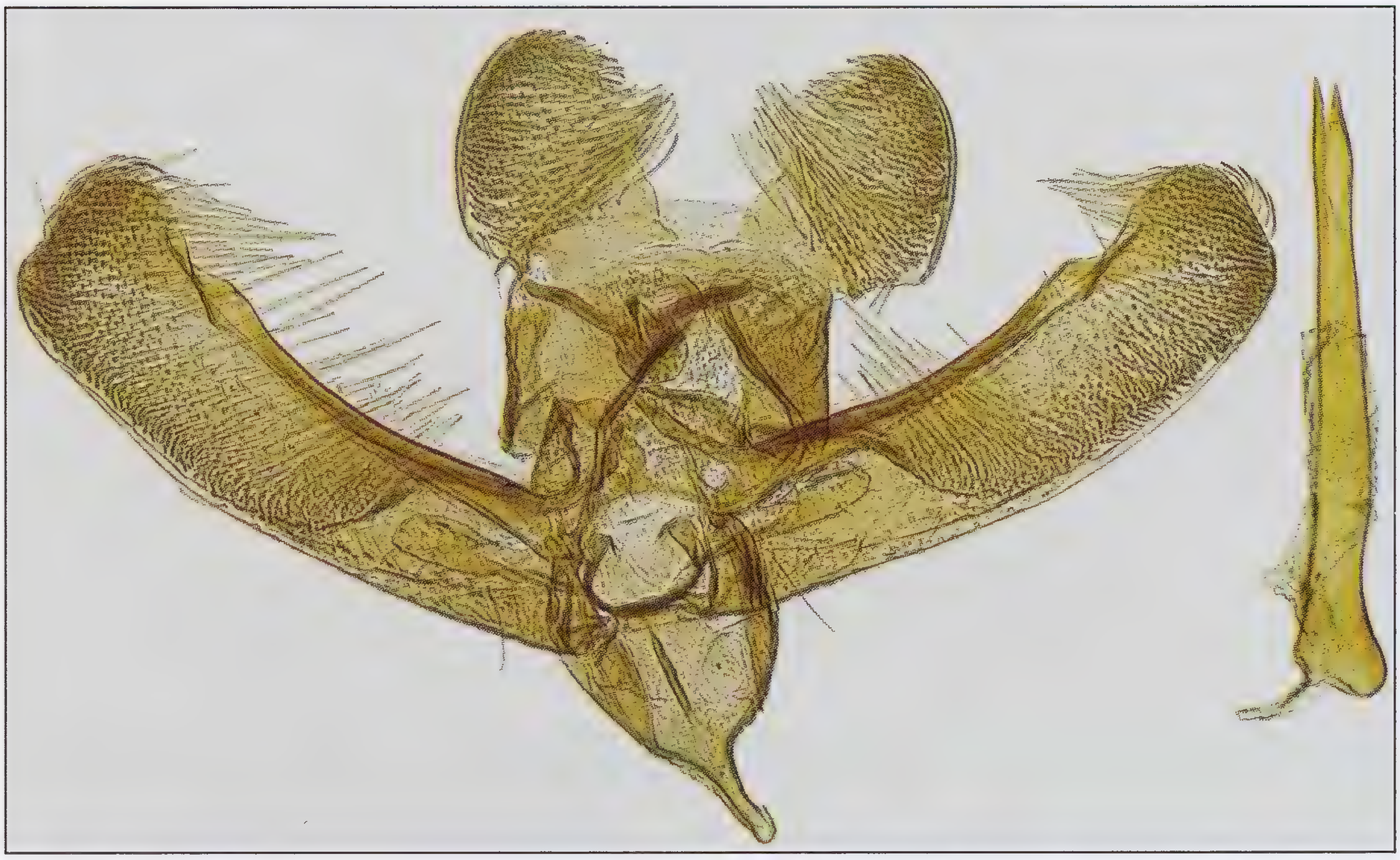

Plate 3. Genitalia preparation of *Elachista orstadii* ♂ from GWT Brassey NR, 17 May 2013. © B. Goodey

grassland, at a Thames Water pumping station in the Windrush valley upstream from Bourton-on-the-Water; there are other areas of unimproved grassland nearby. The Swift's Hill reserve is an unimproved grassland site in the Slad valley near Stroud.

From its presence on four sites in three widely-separated areas it seems unlikely that *Elachista orstadii* is a recent arrival in the Cotswolds. That it had escaped previous notice might seem surprising, particularly if (as seems likely) it is also present on some of the other unimproved grassland sites in the Cotswolds. Although several of the specimens reported here were caught by chance whilst sweeping the grassland, others were seen moving in the turf and then deliberately netted, so like some other grassland microlepidoptera *E. orstadii* can be found by careful searching.

In recent years there have been numerous additions to the county or vice-county microlepidoptera lists and also new records of species not previously recorded here for many years, including two such species on Cleeve Common in 2012. Another such find was a direct consequence of revisiting Cleeve Common on 19 May 2013 to search for *E. orstadii*: I also netted several *Pancalia* specimens and was delighted to find that instead of the usual *P. leuwenhoekella* (L.) which is widespread on suitable Cotswold grasslands, they were *P. schwarzella* (Fabricius) which had not been recorded in the county for about 75 years.

Acknowledgements

I am most grateful to Brian Goodey and Peter Hall for their excellent preparations and photographs of two of the male specimens. Their photographs were also put on the Lepidoptera Dissection Group website (*www.dissectiongroup.co.uk*). I also thank John Langmaid for confirmation that there were no other English records known at that time.

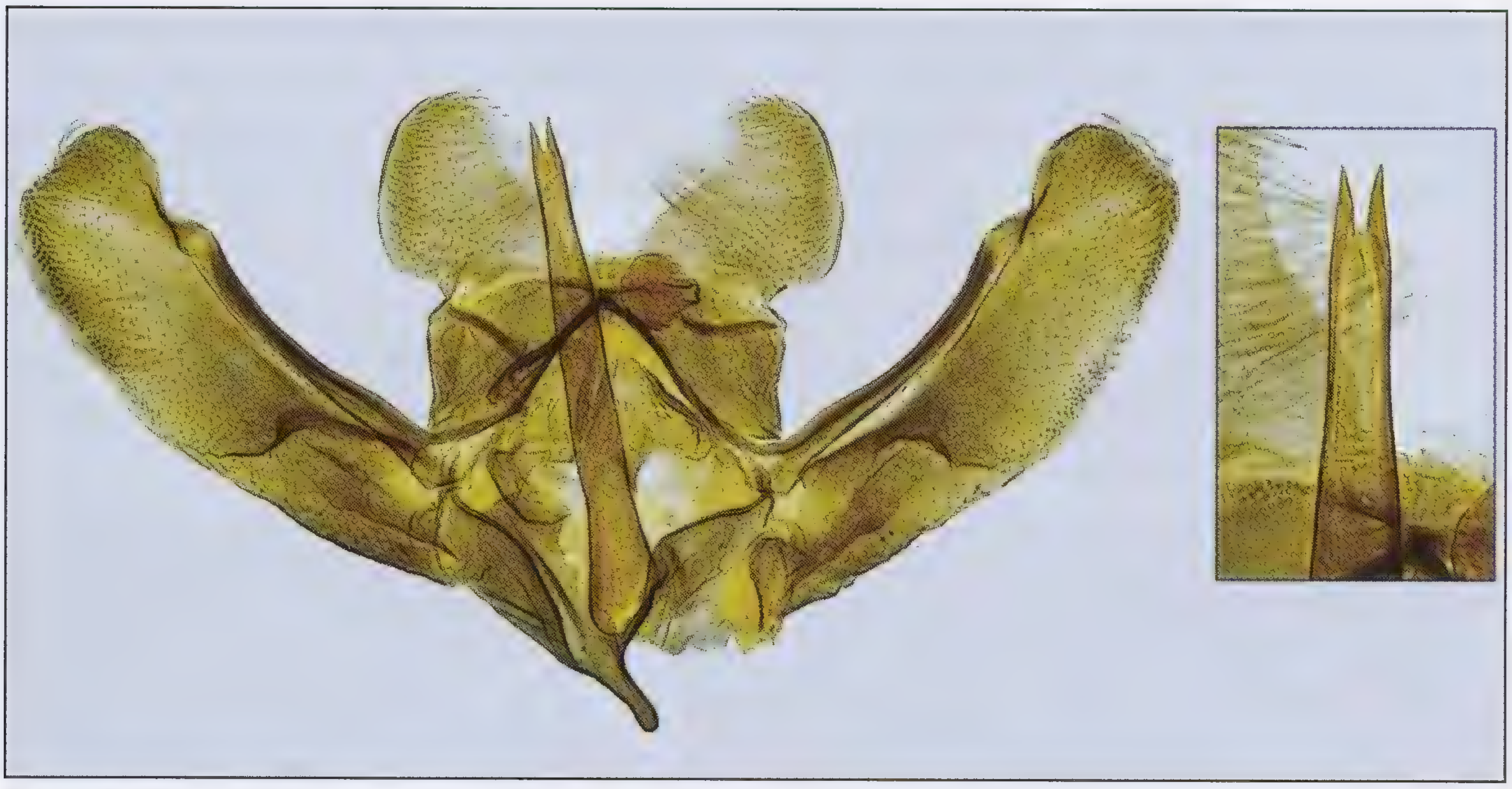

Plate 4. Genitalia preparation of *Elachista orstadii* ♂ from BC Prestbury Hill reserve, 25 May 2013. © P. Hall

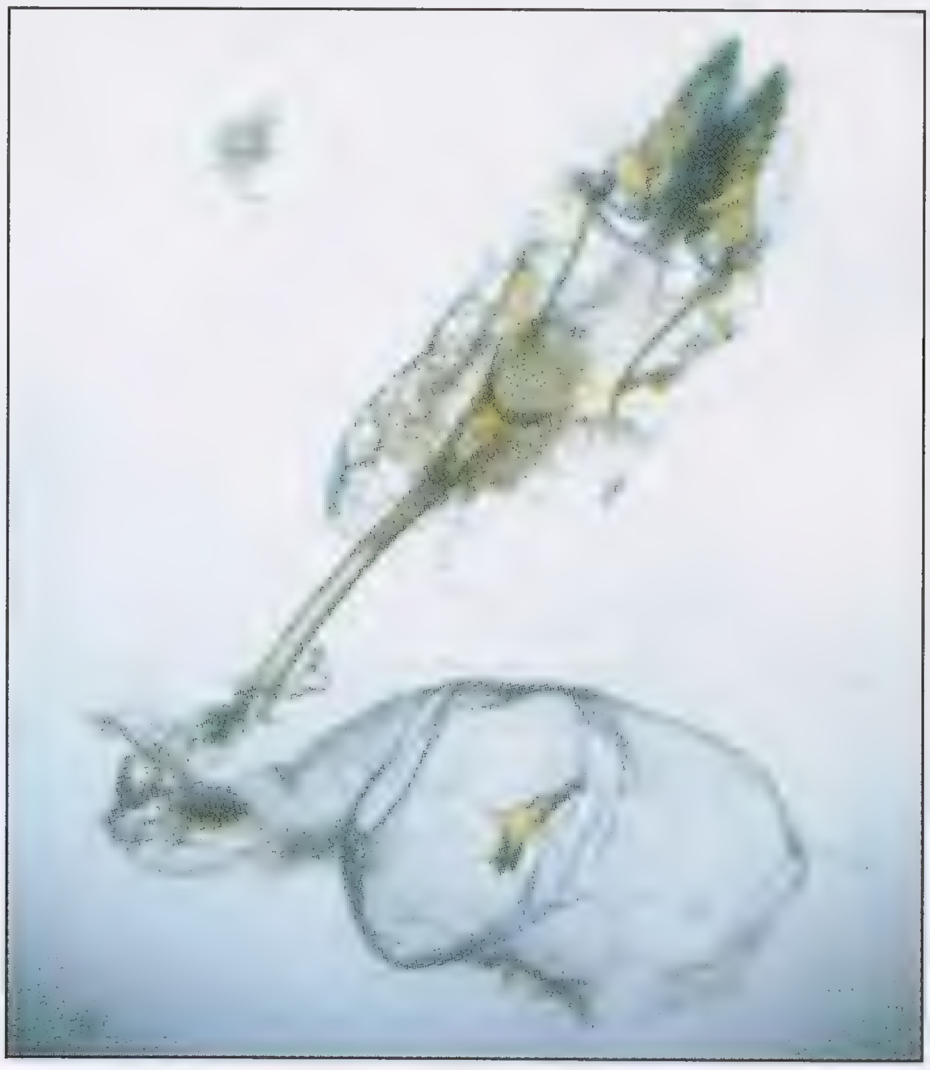

Plate 5. Genitalia preparation of *Elachista orstadii* ♀ from Cleeve Common, 19 May 2013. © G.H.J. Meredith

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Purple Thorn *Selenia tetralunaria* (Hufnagel) (Lep.: Geometridae) pupation site
On 18 March 2013 we found a pupa within a dead birch *Betula* sp. leaf lying amongst leaf litter on moss on the top of a small bank at Great Haldon, Devon. The edges of the dead leaf had been neatly spun together (Plate 1). A Purple Thorn *Selenia tetralunaria* emerged on 26 March 2013.

This appears to be an unusual pupation site according to Porter (1997. *The Colour Identification Guide to Caterpillars of the British Isles*: 63), who states that the 'cocooned pupa is formed just under the soil or moss', with no indication that the larva also pupates within a spun leaf on the surface.

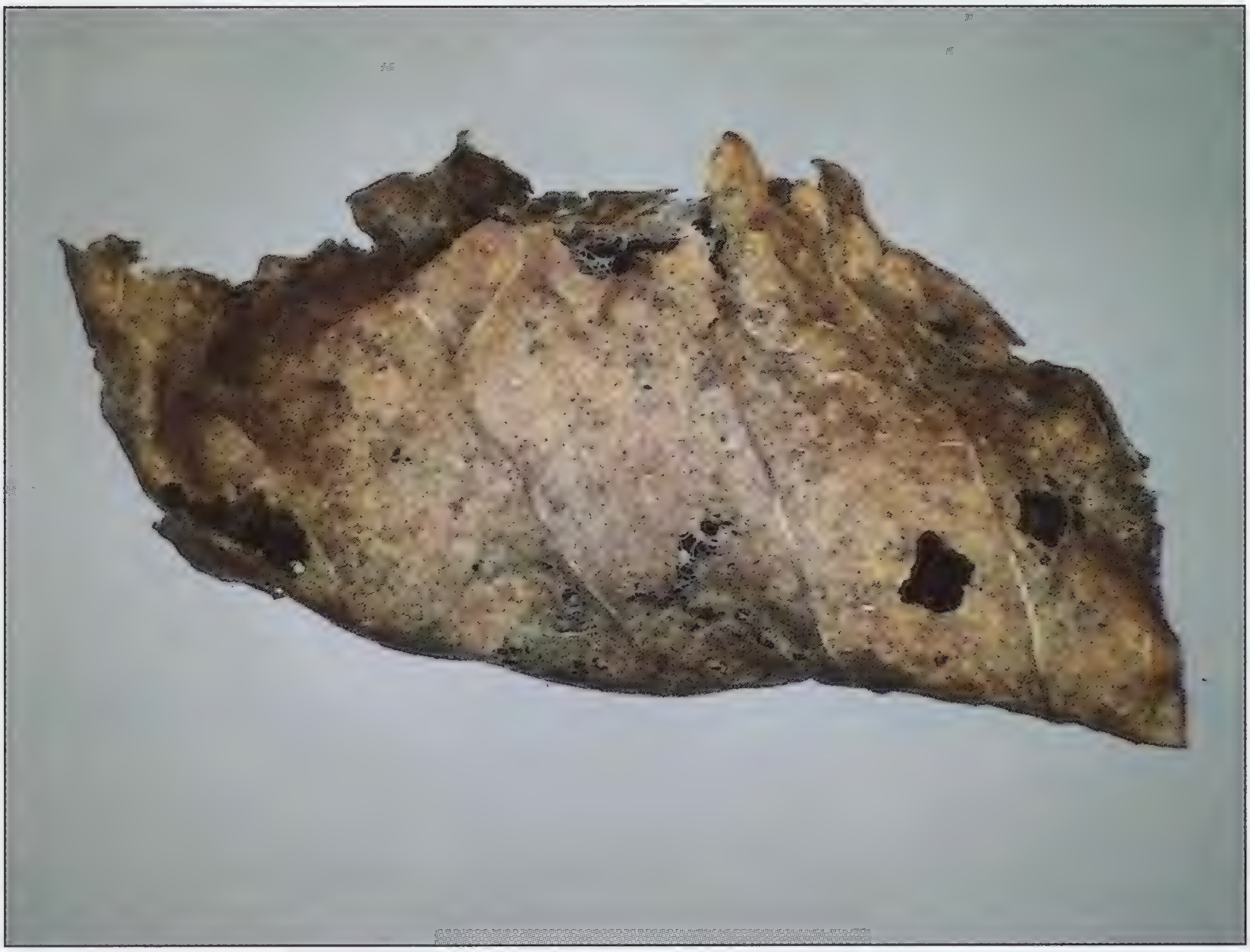

Plate 1. Dead Birch leaf enclosing pupa of Purple Thorn. Photograph © Miss S. D. Beavan.

Barrett (1901. *The Lepidoptera of the British Islands* **7**: 85-86), however, states that the larva pupates 'In a very thin but tough cocoon of shining white silk, which lines a chamber made by drawing together the edges of a leaf, or between two leaves, or among *débris* or moss, on or just under the surface of the ground.' These observations recorded over 100 years ago still hold good!

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Metopoplax ditomoides (A. Costa) (Hem.: Lygaeidae) and *Brachynotocoris puncticornis* Reuter (Hem.: Miridae) briefly visit Oxfordshire

On 19 July 2006, I made my very first visit to Sydlings Copse, a Nature Reserve just outside Oxford, run by the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust. I parked my car on the grass verge by the road, and walked down the sandy track towards the reserve, sweeping as I went and pooting up anything of interest. The walk around the nature reserve was very enjoyable, but the real excitement was to come later when I examined the material collected along the sandy track (O.S. grid reference SP 562098). A single small, dark groundbug (Lygaeidae) with a curious flattened nose (clypeus) was found, which easily keyed out in Southwood & Leston (1959. *Land and water bugs of the British Isles*. Warne, London) as *Metopoplax ditomoides*, a bug which had not been found in Watsonian Oxfordshire before.

This species was first recorded in Britain by Mr G. E. Woodroffe, as part of a survey of Hounslow Heath, Middlesex in 1952 (Woodroffe, 1953. *Entomologist*. **86**: 224-225), but it was not found again until four decades later when Mr John Campbell, the recorder for Oxfordshire, found it in Watsonian Berkshire, at Tickmill Meadow (Kirby, *Heteroptera Study Group Newsletter*. **12**: 2). After that second discovery, more records of the bug, sometimes in large numbers, quickly followed. Exhibits to the British Entomological and Natural History Society in the five years between 1997 and 2001, recorded the counties of Surrey, North Hampshire, Bedfordshire, Berkshire, Buckinghamshire, West Kent and Middlesex. There is also a record from the south-west, in Dorset (Denton, 1998. *Ent. Mon. Mag.* **134**: 265-266) and a 1996 record from Worcestershire (Whitehead, 2004. *Ent. Mon. Mag.* **140**: 247-250). Since then, published records of the bug have slowed and the species has become less common (Nau, *Het News*, *Spring 2009*. **13**: 10). My own attempts to find more of the bug, both at the original sandy track and elsewhere, have failed.

However, one of my return visits to the sandy track in 2006, on 16 August, did bring a dividend: a single specimen of the capsid bug *Brachynotocoris puncticornis*. I was unaware of the bug's identity at the time; it was just another green orthotyline, like so many others. A continuing failure to match it with other specimens and to the couplets of Southwood & Leston's key (*op. cit.*), led me to write to Dr Bernard Nau, enclosing some photographs. He confirmed the bug's identity from these images and stated that he had found the species as new to Britain earlier the same year (Nau & Brooke, 2007. *Ent. Mon. Mag.* **143**: 135-136). There was also another specimen of the bug in my collection from 2006, found on 26 July at Lardon Chase (National Trust), on the North Wessex Downs, above Streatley, Berkshire (SU 587809). Both of my captures, in Oxfordshire and Berkshire, are new vice-county records. I have also heard from Martin Albertini that he found the species in 2006 at Burnham Beeches, Buckinghamshire. Clearly, this bug was already widely distributed in its first year of discovery.

Since 2006, the bug has continued to thrive in Bedfordshire (Nau, *Het News*, Spring 2009. 13: 10; Nau, *Het News*, *Spring 2010*. 15: 12), but I have not been able to find any other published records; and I have failed to find the insect again, in spite of several repeat visits to both of my sites. Interestingly, a record from Hertfordshire has turned up, from a photograph taken in 2002. (Widgery and Nau, 2009, *Het News, Autumn 2009.* **14**: 7).

Images of my specimens have been placed on Flickr (*http://www.flickr.com*, photostream RobRyanBugs). I am grateful to John Campbell, Dr Bernard Nau and Martin Albertini for their helpful comments and also to Dr Nau for his identification of my specimens.

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Kessleria fasciapennella **(Stainton, 1849) (Lep.: Yponomeutidae) rediscovered in Scotland**

By pure chance, when I liaised with Ian Tillotson a couple of years ago regarding him keeping the micromoths from the Tregaron Rothamsted Insect Survey (RIS) Light Trap, mainly due to its proximity to Cors Caron National Nature Reserve in Ceredigion, it coincided with a restructuring of the RIS trap monitoring nationally. As an outcome Ian had inherited the identification of the macromoths from a whole host of traps dotted around the UK. So, for my interest, he also kept the micromoths from these traps and this is how I came to dissect a small ermine-like moth from the Glencoe RIS trap in Argyll, from a batch collected for the first five months of 2013. Initially I presumed it must be *Kessleria saxifragae,* recorded over most of Scotland, but I decided to double check to be 100% certain and so I photographed the genitalia and asked a panel of experts for their opinion. Martin Corley stated "I have looked at the genitalia figures in Huemer & Tarmann's 1991 monograph on *Kessleria*. The best difference between the male genitalia is the length of the aedeagus, 1.54 - 1.84mm long in *saxifragae*, 2.74 - 2.84mm in *fasciapennella*". This was duly examined and proved to be just under 3mm. That, together with the early date, antennae colouration (uniformly fuscous) and size (wingspan 17mm) meant it was *Kessleria fasciapennella*. In view of the significance of this record, I mailed the images to Peter Huemer, at the Tiroler Landemuseen, Austria, the European expert in this group and he confirmed the identification.

Kessleria fasciapennella flies from around late August then over winters and flies again until May, whereas *K. saxifragae* flies during June and July. Its National Status is "Extinct" (Bradley, 2000. *Checklist of Lepidoptera recorded from the British Isles.* Second Edition. Privately published). I can only find one previous record: The Natural History Museum website (*www.nhm.ac.uk/resources/biodiversity/uk-biodiversity/cockayne/database/specimen.dsml?specimenID=12079&taxonID=6183&option=typicalmoths)* accessed, October 2013) lists a specimen from "Pentland Hills near Edinburgh circa 1855" by R. J. Logan in the Cockayne Collection. This mirrors the distribution quoted by Bland (1996. In Emmet, (Ed.). *The Moths and Butterflies of Great Britain and Ireland* **3**: 51) as "Known in Britain only from the Pentland Hills, near Edinburgh (Stainton, 1854). Not seen since the mid-nineteenth century". The current record is, therefore, the first in the UK for around 158 years.

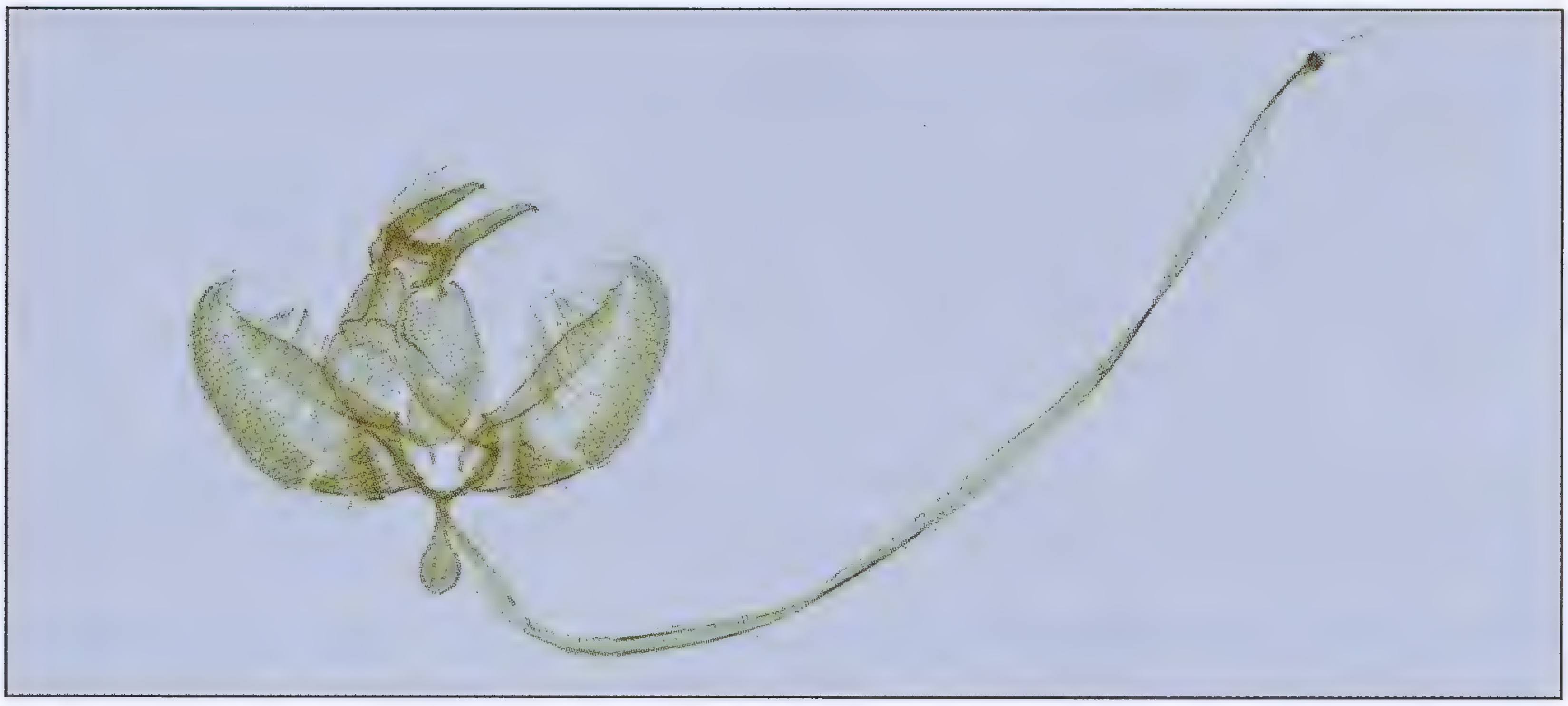

Plate 1. Male genitalia of *Kessleria fasciapennella* (Stt.), Glencoe, Argyll, Scotland, 2013, P. R. Hall.

Its foodplant is quoted as being *Parnassia palustris* (Grass-of-Parnassus), which is a widespread plant mainly found in northern England and Scotland frequenting base-rich flushes in short grassland, mires, fens, dune slacks and machair (Preston, Pearman and Dines, 2002. *New Atlas of British and Irish Flora.* O.U.P.). It would be an interesting study for someone to try and find the larvae. Peter Huemer states that the mines of the larvae are conspicuous and much easier to locate than the adult.

My thanks go to Ian Tillotson for organising the collection of the micromoths from the Rothamsted survey and to Martin Corley for initially identifying the species, Peter Huemer for his confirmation and John Langmaid for his positive comments.

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Cnephasia genitalana (Pierce & Metcalfe) (Lep.: Tortricidae) feeding on the flowers of Foxglove *Digitalis purpurea*

Whilst searching for the larvae of the Foxglove Pug *Eupithecia pulchellata* (Stephens) on the flowers of Foxglove *Digitalis purpurea* on 12 June 2013 at Holmes Wood, Hindolveston, Norfolk we were surprised to find a larva of a presumed species of *Cnephasia.* This was first noticed after it crawled out of the spun flower we had potted up and placed in a plastic pot the day after collecting. It soon spun a flimsy cocoon on some kitchen paper we had placed on the bottom. On 25 July the adult emerged and could be identified as a female *Cnephasia genitalana.* The specimen was set and has been placed in my collection.

Although the larva is already known to feed on the flowers of various plants I can find no trace in the literature of this species feeding in spun flowers of Foxglove.

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WHAT IS THE CURRENT STATUS OF *EPERMENIA INSECURELLA* (STAINTON) (LEP.: EPERMENIIDAE) IN BRITAIN?

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Abstract

The status of *Epermenia insecurella* (Stt.) is reviewed for Great Britain. In 2013, this species is probably breeding on six sites in three vice-counties of southern England. However, this is an elusive species typically only seen in small numbers and hence may well be overlooked. An appeal for additional data is made.

Keywords. *Epermenia insecurella* (Stt.), Epermeniidae, chalk grassland, distribution, British Red Data Book.

Introduction

Epermenia insecurella (Stt.) has long been considered a local and scarce species in central southern England, where it can be found on chalk and limestone grassland. It is associated with Bastard-toadflax *Thesium humifusum*, a rather obscure, localised and easily overlooked plant if not specifically searched for. Godfray & Sterling (1996) give the moth as recorded from Somerset, Wiltshire, Dorset, the Isle of Wight, Sussex, Surrey and Hertfordshire. The distribution of the plant is broadly the same as the distribution of the moth, but it is also found Gloucestershire, parts of the Chilterns, East Midlands and East Anglia with scattered records north to Lincolnshire (Preston, Pearman & Dines, 2002), being found in short, often grazed, species-rich calcareous grassland. Preston, Pearman & Dines (*op. cit.*) indicate that its distribution has remained largely unchanged since the early 1960s.

In 2007 the moth was added to the UK Biodiversity Action Plan (BAP) on the grounds of a perceived decline, with it being graded provisional Red Data Book category 2 (Vulnerable) in Davis (2012), indicating that it was thought to occur in only six to ten of the 10km squares of the Ordnance Survey's national grid system. The species is also listed on Section 41 (Species of Principal Importance in England) of the *Natural Environment and Rural Communities (NERC) Act* (2006).

In the autumn of 2013, County Moth Recorders (in counties where the moth had known to have been recorded) and individual recorders were contacted for records and a trawl of available literature was undertaken. This concentrated on records from 1970 onwards, with the results compiled into a database.

Results and discussion

It readily became apparent that the moth had not been recorded in several counties for very many years. In Surrey (VC 17), from where the species was originally described new to science, it does not appear to have been seen since the 19th century and is considered "Extinct" with the plant now confined to few sites in the county

(Palmer, Porter & Collins, 2012). On the Isle of Wight (VC 10), it was recorded in the past from Freshwater and Sandown, but these many years ago (Goater & Norriss, 2001). In Somerset, the moth had been recorded from two sites – Crewkerne (VC 5) and Batcombe (VC 6) (Turner, 1955), with no records since (J. Bebbington, pers. comm.). The plant still occurs on the Isle of Wight, but it no longer appears to be present in Somerset.

In Sussex, the moth had been reported from Arundel Park (West Sussex, VC 13) in the 19th century and possibly just into the 20th century. The only subsequent record was of a single example found on 19 June 1993 by A. W. Jones, D. C. Lees, P. J. Hodge & R. A. Jones at Mt Caburn, near Lewes, East Sussex (VC 14) (Pratt, 2011). However, there may be an additional record from 15 July 1990 for Lewes by the late A. M. Emmet. As yet this has not been traced and no specimen with this data label could be found in the BENHS collections at Dinton Pastures, this housing most of the Emmet collection (M. Albertini, pers. comm.).

In Hertfordshire (VC 20), the moth is known from just one site, at Church Hill, Therfield Heath (Plant, 2008). In addition to the 1987 record listed by Plant (*op. cit.*) there appear to be records from 1982, 1985 and 1989, but nothing since.

Plate 1. Bastard Toadflax *Thesium humifusum*, the larval foodplant of *Epermenia insecurella*, growing in a calcareous grassland sward in southern England.

Dorset (VC 9) and South Wiltshire (VC 8) could perhaps be considered as the current strongholds for this species. In Dorset, the moth has been found on Portland, with regular records in recent years for the Portland Bird Observatory (M. Cade, pers. comm.). There have been records from three other sites in the county from 2000 onwards, two of these coastal localities, with double figures being recorded at MV light on one occasion. In the latter vice-county the moth has been recorded from three sites in the period 1990 to 1999. All three of these sites are Ministry of Defence properties where access permission has to be organised in advance. It is possible that the moth still occurs at these sites, however, the plant may now be very scarce at one of these and possibly may even have been lost (M. Smith, pers. comm.). Subsequent to this, a single example was found at an additional site in 2004, this remaining the only record since the turn of the century for the vice-county. In North Wiltshire (VC 9), it was recorded from Granham Hill, Marlborough, in 1889, although the foodplant is no longer present (Palmer, 2001).

Since the publication of Volume 3 of The *Moths and Butterflies of Great Britain and Ireland* (Emmet, 1996), the moth has been found in two additional vice-counties. The first concerns a single adult recorded at Wembury Point, South Devon (VC 3), in 2009 by B. Henwood. This is considered to be an immigrant or wanderer, with the foodplant not found in the county (B. Henwood & R. J. Heckford, pers. comm.). On 19 July 2012, a single example was found in East Gloucestershire (VC 33) by G.H.J. Meredith, with at least one, possibly two seen the following year on 26 May at the same site.

Conclusions

At the current time, it would appear that *Epermenia insecurella* is probably breeding on at least six sites (although two of these are based on single examples) over three vice-counties, these being South Wiltshire, Dorset and East Gloucestershire. However, this is an elusive species typically only seen in small numbers and hence may well be overlooked. Therefore further surveying for this moth is encouraged, with counties such as Surrey and in particular, South Wiltshire, Isle of Wight, East Sussex and Hertfordshire warranting effort. In addition, it is possible that the moth could also occur in other vice-counties in southern England that support the plant. If you are aware of any additional records I would be pleased to hear from you.

Acknowledgements

I would like to take this opportunity to thank the following for replying to a request for information on this species: Rev. Dr. D. J. L. Agassiz, J. Bebbington; M. Cade; G. A. C. Collins; R.J. Heckford; B. Henwood; Dr J. R. Langmaid; J. A. McGill; G. H. J. Meredith; S. Palmer, C. W. Plant; C. R. Pratt; M. H. Smith; Dr. P. H. Sterling and M. Wall. I would also like to take this opportunity to thank M. Albertini for checking the Emmet specimens in the BENHS collections.

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Argolamprotes micella (D. & S.) (Lep.: Gelechiidae): New To Wiltshire

On 20 July 2013 I operated two MV lights at Gare Hill (O. S. grid reference ST 783404, South Wiltshire, VC 8), with both lights placed next to an old boundary-bank which defines the junction between Somerset and Wiltshire. One light was on bare ground under the canopy of mature trees and the second was placed on an open track which very conveniently has a diverse mixture of low-growing plants on the boundary-bank.

At about 23.00 hours I examined the contents of the trap placed on the open track and noted a specimen of *A. micella.* At the very moment of securing the moth I became aware that at least four other specimens were in the trap and gained a vague impression that another one or two took the opportunity of venturing out of the open trap.

On 31 July 2013, I operated two MV lights in Norridge Wood, ST 8445, and noted a specimen of *A. micella* there also.

Bland et al (2002. In Emmet & Langmaid (Eds.). *The Moths and Butterflies of Great Britain and Ireland* **4**(2): 79-80), suggests that it is slowly spreading eastwards from its West Country base, where it was first recorded in 1963; these present records, particularly the presence of numbers at Gare Hill would suggest that *A. micella* may perhaps have been established in Wiltshire some years earlier than 2013?

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COLEOPHORA LINOSYRIDELLA FUCHS (LEP.: COLEOPHORIDAE) DISCOVERED NEW TO DEVON ON *ASTER LINOSYRIS*, A NEWLY RECORDED BRITISH FOODPLANT

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Abstract

In 2013 we found larvae of *Coleophora linosyridella* Fuchs, 1880, feeding on Goldilocks Aster *Aster linosyris* in Devon and reared moths. Hitherto, in the British Isles, the species had only been known from Kent and Essex where the larval foodplant is Sea Aster *Aster tripolium.*

Key words: Lepidoptera, Coleophoridae, *Coleophora linosyridella*, *Aster linosyris*, new to Devon, foodplant.

Introduction

Coleophora linosyridella Fuchs, 1880 was added to the British list by Heal & Uffen (1981) from moths of both sexes reared in 1979 from 13 larval cases found by Heal feeding on Sea Aster *Aster tripolium* on 1 June 1979 at Shellness, Leysdown-on-Sea, Kent. In fact Heal had found four cases at the same site on 18 June 1978, but no moths had emerged. The identification was made by G. Baldizzone of Italy from photographs of the male and female genitalia sent to him by Dr K. Sattler of the Natural History Museum, London.

Heal & Uffen record that the species was later discovered at another locality in Kent, at Nagden, as well as at Canvey Island in Essex. They state that at all these sites the larvae are restricted to young Sea Aster germinating at the drift line and so are 'subject to infrequent inundation and have less danger of being swept away than in the typical occurrence of mature Sea Aster'. They note that in mainland Europe the larva feeds on Goldilocks Aster *Aster linosyris* (given as *Crinitaria linosyris* in their paper), state that this is a rare plant of western coastal limestone cliffs in Britain and rightly comment that its fauna has probably not been closely examined. Their paper describes the larva, its case and the adult and provides figures of larval feeding, the larval case and the male and female genitalia.

Emmet (1996. *The Moths and Butterflies of Great Britain and Ireland* Volume 3) gives a fuller account of the species; figures of the larval case, adult and genitalia of both sexes are also provided in that publication. He states that it is restricted to the estuary of the River Thames where it occurs in both Kent and Essex. Although Emmet asserts that "the foodplant is one frequently searched by microlepidopterists," he suggests that because cases were not discovered until 1978 the species was a recent arrival in Britain and that a further extension of range is possible.

Davis (2012: 14) accords it pRDB1 status, meaning that for the period 1980-2011 it has only been recorded from five or fewer 10 km squares. As far as we are aware until 2013 it had not been found outside Kent and Essex.

Discovery in 2013

As Heal & Uffen (1981) state, Goldilocks Aster is a rare plant of western coastal limestone cliffs in Britain. According to the distribution map for this plant in Preston, Pearman & Dines (2002: 641) it occurs in three places in Wales and four in England and nowhere else in the British Isles. The text states that the distribution is stable but some populations are very small. Three of the sites are in south-west England: one in the Berry Head, Brixham area of South Devon and two in North Somerset.

At the end of June 2012 RJH found what looked like old mines in the leaves of Goldilocks Aster growing in the Berry Head area. Each mine had a small round hole at one end which appeared to be the work of a *Coleophora* species, but no cases could be found. The plant flowers from late August to early September (Plate 1). A visit to the area in early September that year showed, sometimes with the aid of binoculars, that plants, then in flower, were more widely distributed than shown by the June visit, but most were in inaccessible places on the edge of the cliffs.

On 22 May 2013 we visited the site where RJH had found the mined leaves the previous year. This is close to the cliff edge but not particularly hazardous. We found a number of cases, most apparently of full size, about 9 mm long, with a few smaller cases about 5 mm long. The plants were no taller than the surrounding vegetation (Plate 2) and grew in two fairly small areas. When not in flower it is very difficult to locate because the leaves are long and narrow and very similar to those of Common Toadflax *Linaria vulgaris* and Sea Plantain *Plantago maritima* amongst which it grows there. The case of *Coleophora linosyridella* is very similar to those of *C. trochilella* (Duponchel) and *C. ramosella* Zeller. The larva of *C. trochilella* feeds on several plant species both in the British Isles and mainland Europe, but not Goldilocks Aster. That of *C. ramosella* occurs on Goldenrod *Solidago virgaurea* and Daisy *Bellis perennis* in the British Isles but also on Goldilocks Aster in mainland Europe. We did not find cases on Yarrow *Achillea millefolium*, one of the foodplants of *C. trochilella*, that grew nearby, and so suspected that we had discovered either *C. linosyridella* or *C. ramosella*. As both are accorded pRDBI status by Davis (2012) we collected only five cases.

On 28 May RJH went to a more hazardous area about 100 m away where the plants were more common, but curiously found no cases or signs of feeding.

The first moth, a female, emerged on 20 June 2013. We decided to return two of the cases and did this during the early evening of 29 June. It was warm and still and we wondered if we would observe adults. None was flying and even when we gently ran our hands over the foodplant none was disturbed. We then tried using a bee-smoker which resulted in about half a dozen moths emerging from the vegetation. They looked similar to the one that we had reared. Most appeared to be female but we retained one that was clearly a male. The moths readily returned to the cover of the vegetation where they remained without flying. On 8 and 15 July respectively female and male moths

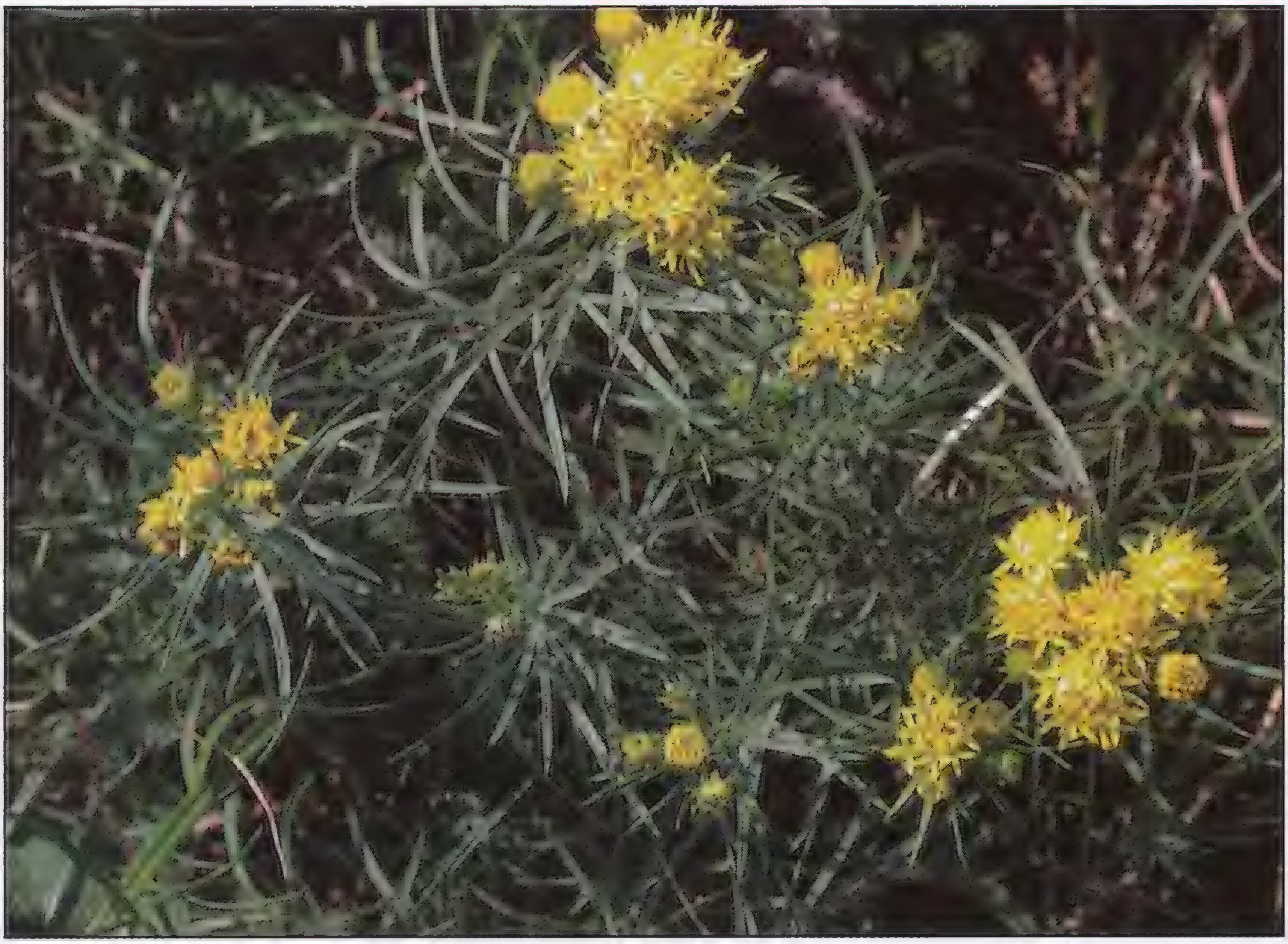

Plate 1. Goldilocks Aster *Aster linosyris* in flower. Photograph © R. J. Heckford.

Plate 2. Leaves of Goldilocks Aster *Aster linosyris* in mixed vegetation. © R. J. Heckford.

emerged from the two cases that had been retained. All the moths had wingspans of 12-13 mm, within the range of 11.5-13.5 mm given by Emmet (1996: 295).

Dissection of both females and a male showed that they were *Coleophora linosyridella*, the genitalia agreeing with the figures of both sexes in Heal & Uffen (1981) and Razowski (1996: 174, fig. 51 (b) ♂; 200, fig. 77 (d) ♀) as well as the photographs of the genitalia of both sexes provided by Jäckh (1957) of moths reared from Goldilocks Aster in Germany.

We visited the site again 28 August 2013 and disturbed a very worn female *Coleophora* species having a wingspan of only 9 mm. This also proved to be *C. linosyridella* on dissection.

Observations on the larvae

Emmet (1996: 295) observes that the larva, on Sea Aster, starts feeding at the end of August and that the smaller leaves higher up on the plant are preferred in September, but when feeding recommences in May the larva usually eats small leaves partially concealed by grass. The mines are mainly on the leaf margin.

So far we have only observed larvae in late May. The plants on which they fed were partially concealed by other plants. The leaves of Goldilocks Aster have a distinct mid-rib. The larval mine is straight and never crosses the mid-rib, but the larva will often mine either side of the mid-rib and usually feed on several leaves and probably more than one plant.

Heal & Uffen (1981) observed that the cases on Sea Aster readily drop off the plants. Those that we found did not.

In captivity the larvae were offered not only leaves of Goldilocks Aster but also Sea Aster and Goldenrod. No larva ate the latter, one ate both Goldilocks Aster and Sea Aster and the others only ate Goldilocks Aster.

Attempts to find *Coleophora linosyridella* in Somerset

As mentioned earlier, Goldilocks Aster is known from two sites in North Somerset. One is on the coast at Brean Down, the other is about 600 m inland at Uphill. We visited both sites on 29 August 2013. Although we had eight-figure grid references we failed to find the plant at Brean Down where it is apparently confined to a steep part of the cliff and is visible from below at high tide but not easily accessible. We did find several plants at Uphill, but found no cases or signs of feeding.

Discussion

It seems remarkable that the larvae of *Coleophora linosyridella* feed on plants in two quite different habitats, one not subject to tidal elements, but there appear to be no genitalic differences between those reared from Goldilocks Aster and those from Sea Aster.

Emmet (1996: 295-296) is no doubt right in his reason for suggesting that the species is a recent arrival in the estuary of the River Thames. Although Goldilocks Aster in the Berry Head area has probably not previously been looked at by microlepidopterists, it seems very unlikely that it is a recent arrival. The chance of an immigrant female moth finding the small area of foodplant seems extremely remote. Thus we suspect that here it is a long-term, overlooked, resident.

The foodplant is not tolerant of competition and there is a danger of scrub encroachment. We shall liaise with relevant interested bodies to try to ensure that appropriate management is in place.

It remains to be seen whether *Coleophora linosyridella* will be found at other localities with Goldilocks Aster. The fact that it does not occur in apparently suitable habitat within 100 m of where we found it and that we did not see evidence of it at Uphill might be an indication that it has extremely specific requirements and so, on this foodplant, might be limited to just this one site.

As far as we are aware, this is the first time that the larva of any species of Lepidoptera has been found feeding on Goldilocks Aster in England and Wales.

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A long-forgotten lepidopterist

Ophelia Brown was one of our earliest female lepidopterists. Many details of her life are lost in time, but apparently she was active around the beginning of the 19th century. She lived in the little Hamlet of Ilver, long since swallowed up by the outskirts of Slough. It was here that she discovered the first moth to bear her name, Brown's Ilver Line, previously overlooked as a pale form of Lead Belle (or more likely July Belle, given the locality).

Her next important discovery was Brown's Pot-pinion, which she found lurking amongst the crockery in her scullery, feeding on a newly made batch of blackberry jam. However, it is her final triumph that best reflects the diligence and commitment she brought to her pursuit. One summer's day she espied a moth floating upon the surface of a reedy pool, a species she had never seen before. It was tantalisingly out of reach. Not to be deterred, she grasped the overhanging branch of a buckthorn bush and leant out over the water. Alas, the branch broke and in she went. Though floating for some time, she drowned before her companion (a Miss Green) could summon the Water Boatman. When fished out she was still clutching the third species that bears her name, Brown's Callop (callop being the local dialect term for a clumsy catastrophe, with undertones of 'serves you right').

Then came the Victorians, and a change in social attitudes. The study of moths was no longer considered a suitable pastime for young ladies, since it might involve them going out into the woods at night. Worse, it could bring them into contact with suggestively large and fleshy caterpillars such as *elpenor* or – heaven forbid – a full-grown *Cossus cossus*. The consequences were unthinkable! A little gentle botanising, followed by flower painting in the drawing room, was much more decorous. So it was that the study of moths became a predominantly male pastime and Ophelia Brown was no longer mentioned in polite society. Even the names of the moths she had discovered were subtly altered to remove all trace of her from the record.

Fortunately we live in more enlightened times. Nowadays the (usually) fairer sex is encouraged to take a full and active part in our hobby, especially in the woods at night (as a recent article suggests). Why, some have even been allowed to become County Moth Recorderesses, at least in Scotland! Doubtless Ophelia Brown would have approved.

ANON

BOOK REVIEWS

Pyraloidea of Europe (Lepidoptera). Volume 3: Pyraustinae & Spilomelinae by **František Slamka**. 358pp., including 31 colour plates of adult moths and 133 black and white plates of genitalia. 232 x 165 mm, hardbound. ISBN: 978-80-969052-8-7. Published by Slamka, Bratislava, October 2013. €80 (plus postage). Order direct from Slamka, Račianska 61, SK-83102 Bratislava, Slovakia or by e-mail to slamkaf@nextra.sk (web site at *http://home.nextra.sk/fslamka*).

Pyralid moths, these days divided into Crambidae and Pyralidae, provide a gateway to the micros for many British moth enthusiasts. Many species are as large as or larger than some macros whilst many are attractively designed and give many a noctuid a good run for artistic merit. What a pity then that efforts to "get into" the group are thwarted by a lack of good quality identification literature. We did have an excellent pyralid book a good while back, written by Barry Goater, but that was in 1986 and is out of print. In any case, over the 27 years since it appeared there have been several new additions to the British pyrale fauna and an updated book dedicated to these moths is seriously overdue. In the absence of a British bred work, and on the basis that because of presumed climate change we are experiencing changes in the fauna with species from overseas joining us, the logical action is to examine the European literature.

This present volume is the third in the excellent series by Frantisek Slamka of Bratislava and by chance it is the volume that contains most of those larger-than-macros "pretty" species and so it will have a huge appeal to British readers. It covers the two subfamilies of Pyraustinae and Spilomelinae and according to the blurb includes 220 species. All are illustrated in colour using set specimens and the text, though concise, is thorough and seemingly accurate, covering biology, habitat, distribution (including maps) and similar species. Genitalia of the male and female are shown for almost all the species – an extremely useful inclusion since many species are not so illustrated elsewhere in the literature.

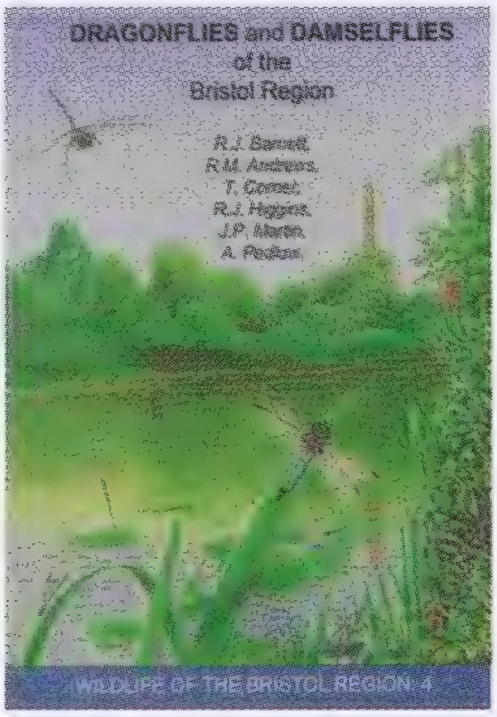
The colour images are presented in 31 full page plates in which the moths are shown at 1.5 times life size. Several examples of variable species are shown – a welcome feature indeed. The captions for each plate are on the facing page and the collection data for each specimen is given. This is an extremely important addition that is often overlooked by many authors. In the review copy, the colour reproduction is excellent, as is the clarity of the images. The genitalia are presented as photographs, the males typically eight to a page and the females usually four. This is doubtless better than drawings since any element of "interpretation" on the part of the artist is removed and "what you see is what you get". In fact the images are crystal clear and should allow for the confirmation of all species included.

I should probably declare an interest and make it clear that I am in occasional contact with the author over pyrales, since I am working on this group in the Balkans. However, as a result of this I am acutely aware of the effort that Slamka has put into this work, ensuring that the book presents factually correct data and not simply material slavishly repeated from earlier, sometimes incorrect, publications. The price of 80 Euros is by no means excessive.

This volume, which is dedicated to the late Michael Shaffer will, without doubt, prove to be of immense value to British moth enthusiasts, both amateur and professional and should certainly be added to the bookshelf of everyone reading this revue.

Colin W. Plant

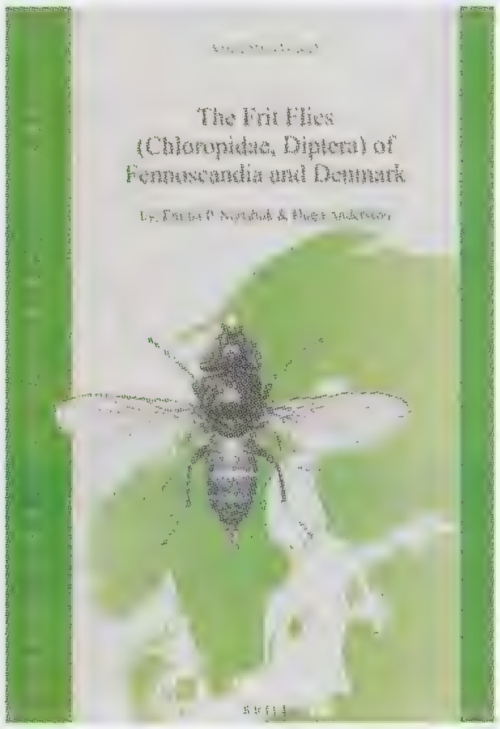
Dragonflies and Damselflies of the Bristol Region by **R. J. Barnett, R. M. Andrews, T. Corner, R. J. Higgins, J. P. Martin & A. Pedlow**. *Wildlife of the Bristol Region* number 4. 150pp, numerous colour plates and distribution maps, 192 x 252 mm, hardbound, with dust jacket, ISBN: 978-0-9545235-2-7. Published by Bristol Regional Environmental Records Centre, July 2013. £19.50 (plus £2.50 UK postage). Order direct from the publisher at BRERC, Bristol Central Library, BS1 5TL (web site: *www.brerc.org.uk*) or your usual entomological bookseller.



Books on regional wildlife are of limited interest to people outside the region in question (and I speak as an author of just such a work) and so whilst the multi-coloured distribution maps and the comprehensive and easy to read text here are certainly to be commended in any review it is even more pleasing to engage in the introductory chapters. The longest and most comprehensive of these is entitled "Conservation and habitats" and is written by Rupert Higgins and John Martin. The comprehensive and informative text is lavishly illustrated with colour photographs and followed by a series of "Case studies". There is also a lengthy discussion of "Dragonfly recording" in which we discover that the book has been born of 23,996 records of Odonata from 600 recorders over a period of 90 years. A total of 32 species are represented and these affect 58% of the Bristol Region, as measured by the number of 1km x 1km map squares. The coverage map shows these spread over the whole recording area, so that almost no part of the map is lacking in some level of coverage.

Quite apart from being just a nice book to have, this is an important contribution to one of the larger (and expanding) urban conurbations of Britain, which includes parts of the North Somerset, South Gloucestershire and Bath & North-east Somerset administrative regions as well as the entire of Bristol City. It provides an excellent baseline against which changes in the fauna, and hence influencing environmental factors, can be monitored into the future.

The Frit Flies (Chloropidae, Diptera) of Fennoscandia and Denmark by **Emilia P. Nartshuk & Hugo Andersson**. *Fauna Entomologica Scandinavica*, Volume **43**. 282pp., including 1014 line drawings. 252 x 176 mm, hardbound. ISBN: 978-90-04-16710-0. Published by Brill, September 2013. €181 (plus postage). Order direct from the publisher at P.O. Box 9000, P A Leiden 2300, Netherlands, or your usual entomological bookseller.



The volumes of *Fauna Entomologica Scandinavica,* in their familiar green livery, must surely be known to, and respected by, every entomologist active within northern regions of Europe. The individual volumes each treat their particular subject area thoroughly and accurately and in a user-friendly manner that makes the series as a whole a critical work of reference for the identification of insects in Northern Europe. This latest tome, covering a large group of flies that are of some economic importance as pests of cereal crops, does not break from that tradition. A total of 209 species covered in the identification keys includes one new genus and thirteen new species, as well as several new synonymies. Although the series does not specifically include British species, it does inevitably include Fenno-Scandian species that are also found in Britain and these are highlighted in the customary "Catalogue" at the rear of the work. Exactly 150 of the included species are also found in Great Britain; the latest published British checklist (Chandler, 1998) list 174 species for The British Isles, so that even assuming that some species are endemic to Ireland that still leaves a few of "British" species that are not included. However, this has not proved a particular obstacle for other groups covered in the series and it is difficult to assume anything other than that this latest work will prove to be one the greatest value to British dipterists.

BOB GEORGE

We were saddened to learn that Robert "Bob" George died, peacefully, on Saturday 9 November 2013 in his 93rd year. Bob was particularly known for both his work on fleas and as the proprietor of Marris House Nets; less well-known are his exploits as a Spifire pilot during World War II. Although physically incapacitated, he remained mentally active taking an interest in his studies up until a couple of weeks before his death. The family advise that donations are invited in his memory for 'The Woodland Trust', via George Scott Funeral Directors, 1537 Wimborne Road, Bournemouth BH10 7BD.

ADDENDA

With reference to changes in the list of British Isles County Moth Recorders, on pages 6 and 7 of this current volume, please note that Graham Jones has resigned as Lancashire Macro Recorder. At present, a replacement remains to be appointed.

With reference to the list of County Moth Recorders published in Volume 124, on page 1, I am asked to point out that Marc Taylor stepped down as Macro Recorder for Wiltshire. The new formal Recorder for Macro-moths in both VC 7 (North Wiltshire) and VC 8 (South Wiltshire) is Dave Brotheridge, 7 Rawlins Park, Avebury, Near Marlborough, Wiltshire SN8 1RQ (*d.brotheridge@btinternet.com*) assisted by Wayne Clinch who attends to the IT side of the recording process. Godfrey and Michael Smith remain in post as the Wiltshire Micro-moth Recorders.

CORRIGENDA

The Editor is in receipt of the following important corrections to this current volume.

Page 160. Text line 1 and caption to Plate 1. The capture date of 6 May 2012 should read 6 May 2013.

Please note that corrections, where required, are always situated on the final page of the volume to which they relate, or for the year in which they were reported, whichever is the earlier.

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APPEAL

We are actively seeking to plug the gaps in the Editor's "run" of this journal – *The Entomologist's Record & Journal of Variation.* We welcome bequests, donations or offers for purchase of the following missing issues:

Volume 1 for year 1890
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Volume 15 for year 1903
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Both loose parts and bound volumes are equally welcomed, as are any individual parts of any of these volumes. Offers should be made direct to the Editor, whose contact details are inside the front cover of this issue.

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Cravitz Printing Company Limited, 1 Tower Hill, Brentwood, Essex CM14 4TA. Tel: 01277 224610

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